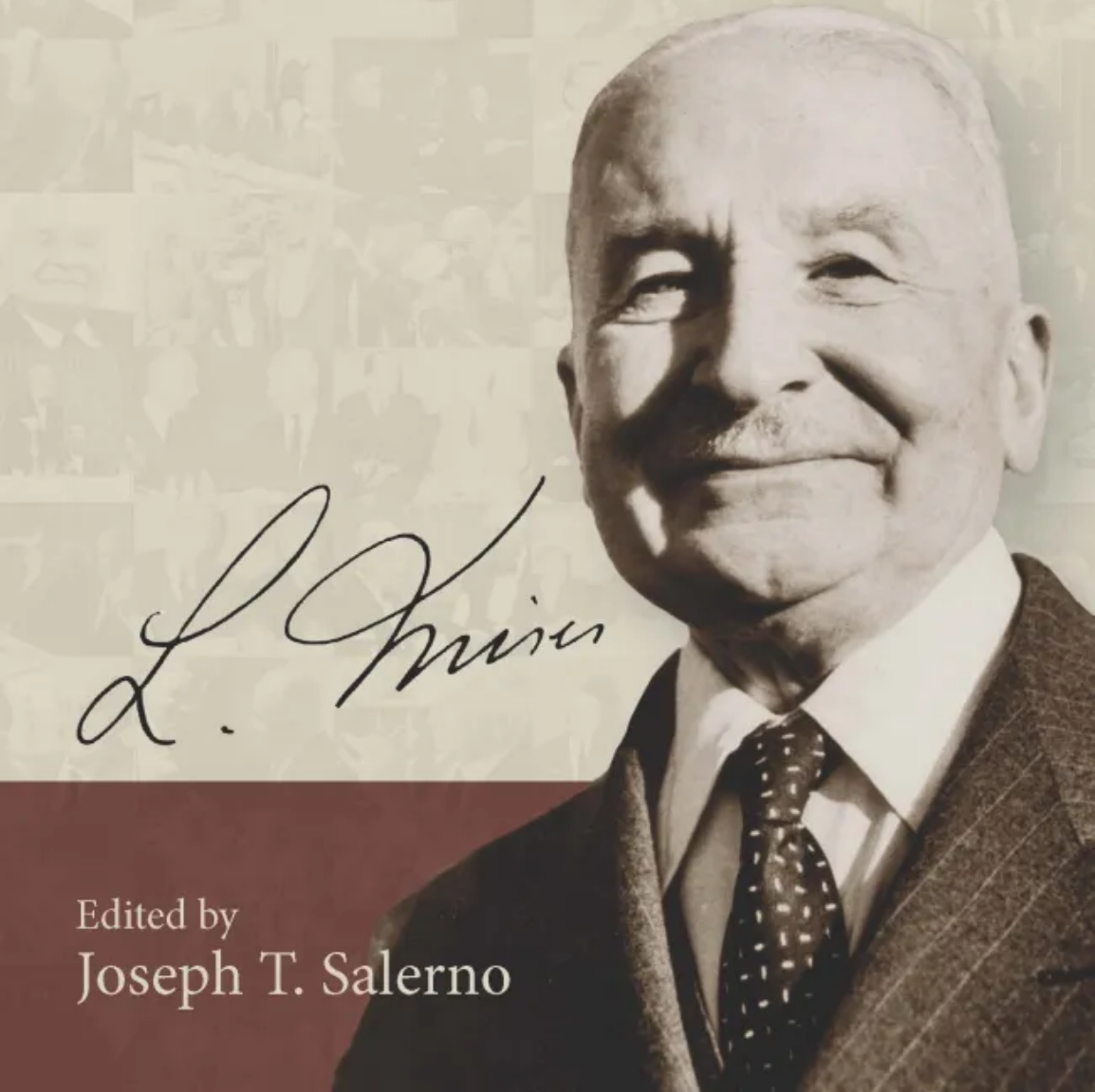
The Influence and Significance of *Human Action* After 75 Years



Edited by
Joseph T. Salerno

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Mises Institute
518 W. Magnolia Ave.
Auburn, AL 36832
mises.org
contact@mises.org

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Preface

Joseph T. Salerno

The contributions to this volume range broadly over the disciplines of economics, epistemology, the philosophy of science, history, and political philosophy. The essays on economics alone touch on topics as diverse as money, uncertainty, business cycles, environmental policy, entrepreneurship, monopoly and competition, antitrust policy, economic calculation, and comparative economic systems. Based on these contributions, one might be tempted to characterize *Human Action* as a grand treatise on economics, encompassing aspects of auxiliary disciplines, but even this description would gravely underestimate its scope and importance. For *Human Action* is more than a book about economics broadly construed. It is a guide to civilized social life which elucidates the laws of reality that apply if human persons are to engage in peaceful and prosperous social cooperation under the division of labor. Indeed, Ludwig von Mises considered titling his treatise *Social Cooperation*.

For Mises, unlike most economists, economics is not merely an "analytical toolbox" for grading alternative economic policies or economic systems as more or less practical or efficient. Rather, economics is a body of substantive truths about the institutional foundations of human society. Thus, what is at stake in formulating a well-founded and coherent structure of economic theory is not an incremental change in GDP or "social welfare" but the fate of humanity. This unique view of economics accounts for Mises's emphatic tone and what has been called his "intransigence" in defending laissez-faire capitalism as the only thinkable economic system consistent with the rational

allocation of resources under specialization and the division of labor that is indispensable to human material and spiritual flourishing.

Mises summed up the importance of economics for human existence in the concluding passage of his great treatise:

> The body of economic knowledge is an essential element in the structure of human civilization; it is the foundation upon which modern industrialism and all the moral, intellectual, technological, and therapeutical achievements of the last centuries have been built. It rests with men whether they will make the proper use of the rich treasure with which this knowledge provides them or whether they will leave it unused. But if they fail to take the best advantage of it and disregard its teachings and warnings, they will not annul economics; they will stamp out society and the human race.

As the reader will soon discover, all the essays in this book are profoundly inspired by Mises's vision of economics. It is not coincidental that their authors are closely associated with the Mises Institute, whose mission since its founding by Lew Rockwell in 1982 has been to promote research and education in Misesian economics. It is a testament to the resounding success of the Mises Institute in pursuing its mission that the scholars who contributed to this volume—who were both teachers and students at its educational events—span four academic generations.

1

The Law of Association: Foundation of Human Society

Paul F. Cwik

The 1980s were a time when Alex P. Keaton,[1] conservatism, and free trade were cool. The vision of a smaller government was so strong that it spilled into the 1990s, when the "era of big government" was declared "over."[2] Unfortunately, the reality of free trade never actually materialized. Beginning in 1981, the Reagan administration negotiated a "voluntary export restraint" agreement that limited the volume of Japanese cars exported to the United States. The North American Free Trade Agreement (NAFTA), negotiated under President George H. W. Bush and signed into law by President Clinton in 1993, was hundreds of pages long, containing twenty-two chapters and seven annexes. However, while it does not take hundreds of pages to say "We will not tax, regulate, or restrict trade with you," at least there was lip service promoting the idea of free trade.[3]

The pendulum has swung far away from the rhetoric of the 1980s and '90s. Today, there is open hostility toward free trade. Oren Cass, writing in the Liberty Fund's publication *Law and Liberty*, stated in January 2024, "Comparative Advantage rose phoenix-like from

[1] Alex P. Keaton was a fictional character played by Michael J. Fox on the television show *Family Ties*.

[2] Bill Clinton made this famous pronouncement in his State of the Union address on January 23, 1996.

[3] For an overview of how NAFTA was not a free trade agreement, see Rothbard (2006b).

the ashes of World War II, as American economists sought to claim for themselves a leading role in rebuilding a peaceful, US-led world order." Cass does not simply hold contempt for the idea of free trade and the reasoning supporting it (the law of comparative advantage). He actively promotes protectionism: "Behind some of the world's highest tariff barriers, the United States transformed from colonial backwater to continent-spanning industrial colossus. From 1870 to the eve of the Great Depression in 1929, US GDP per capita grew at more than twice the rate in the United Kingdom. Most of the great success stories in modern development—countries like Japan, South Korea, and Israel—likewise hinge on aggressive trade barriers erected to develop domestic industry" (Cass 2024). The champions of free trade have receded into the background. In this election year (2024), no leading presidential candidate advocates for free trade.

What happened to the ideal of free trade? The answer to why politicians support regulated trade and negotiated treaties is that most voters simply do not support free trade. The problem is deeper than the lack of public interest in international, multilateral agreements. The root of the problem extends to a misunderstanding of the basic goodness of a simple market exchange. The rot of poor economic theory stretches to its foundations. Modern economic theory has failed, at the most basic level, to teach the majority of people the benefits of free trade.

Foundation: Why We Trade

At the heart of every trade lies "the double coincidence of wants." This principle is the basis of why two people trade. When people exchange, they trade because their valuations are unequal. Imagine two individuals: Mises and Hayek. Suppose that Mises has apples and Hayek has blueberries. Each subjectively values the object in his possession and appraises the expected value of the other's. If Mises values the apples more than the blueberries, then he will not be willing to trade. Likewise, if Hayek values the blueberries more than the apples, then he, too, will be unwilling to trade. They will only be willing to complete the exchange if they expect to gain more than they trade away. The

double coincidence of wants refers to the situation where the valuations (of the wants) of the two parties coincide (with each other) so that their valuations have opposite inequalities. In other words, for Mises and Hayek to trade, Mises must value the blueberries (which he is gaining) more than his apples (which he is trading away). At the same time, Hayek must have the reverse valuations, whereby he values the apples more than his blueberries. When the double coincidence of wants condition is met, there will be an exchange that makes both parties psychologically happier. Additionally, voluntary exchange is morally good because there is no coercion, each party serves the other so that both sides gain, and no one loses.

However, despite the psychological benefit of voluntary exchange, the quantity of goods remains the same. In other words, while Mises and Hayek are happier after they trade, there still exists the same total amount of apples and blueberries. No additional products have been created. To explain how a society can grow through exchange, it is necessary to extend the analysis of trade to include specialization and the division of labor.

In his 1776 book *An Inquiry into the Nature and Causes of the Wealth of Nations*, Adam Smith (1982) presents a theory of "absolute advantage." Absolute advantage is a situation where one economic entity (individual, company, state, or nation) is better than another at making a good. When two parties each have an absolute advantage, the benefits from specializing and trading according to their absolute advantage are clear. However, what happens if one side is better at producing everything? Is there still a reason to specialize and exchange? The answer is yes, but the reason is found in the law of comparative advantage, not in absolute advantage.

The Law of Comparative Advantage

The law of comparative advantage for international trade was first formalized a generation after Adam Smith. Normally, David Ricardo's (1973) *The Principles of Political Economy and Taxation* (1817) is credited with the introduction of this law. However, Lionel Robbins (1998, 211) argues that Col. Robert Torrens's (1815) work *An Essay*

on the External Corn Trade first formulated it. Murray Rothbard (2006a, 96–98) digs deeper and argues that it was actually James Mill, friend and mentor to Ricardo, who first correctly articulated the law of comparative advantage. Regardless of who first formalized the law, the important point is that it shows that when economic entities specialize according to their comparative advantage and trade, not only will both parties become psychologically happier, but there will also be a physical increase in the number of goods produced.

In *Human Action*, Ludwig von Mises transforms the law of comparative advantage from a tool used to analyze international trade questions to a tool used at every level of trade. He renames it the "law of association." By applying the law of association to trade at every level (from individuals to general markets to international markets), Mises shows the necessity of free markets for human flourishing.

The law of association may be the most difficult economic law to understand because sometimes it leads to counterintuitive conclusions. For example, if a person wants bread, it might be economically better for him to specialize in something else and trade for bread even if he is better at making bread than everyone else (i.e., he has an absolute advantage).

Despite the difficulty in understanding the law, following the law is often instinctual. Suppose a major league baseball pitcher who earns $43 million per year is also a very good baker. Imagine that he is so good at making cakes he could sell each for the extremely high price of $430. At this price, to match his baseball income, the pitcher would have to sell 100,000 cakes per year, or 274 per day! Clearly, the pitcher should specialize in pitching and buy cakes. Alternatively, imagine a doctor who could either cut his lawn or outsource this task to his grandson. If the doctor spends his time cutting his grass, then he is not doing what he does best, which is serving his patients. Again, the solution is almost instinctual. He should hire his grandson to cut his lawn.

The key to the law of association is uncovering what one does best. Specifically, the key is determining the decision-maker's opportunity cost. An actor's opportunity cost is the next best, forgone alternative. In other words, when a person makes a decision there are many possible

choices to consider; the decision-maker chooses the alternative that yields the highest expected value and sets aside the rest. Of the choices that are not selected, the next best alternative is the opportunity cost. Suppose that a person is deciding upon lunch. He is confronted with many alternatives. He could have, for example, a sandwich, a hot dog, or soup. If his first choice is the sandwich, his second the hot dog, and his third the soup, then as he selects the sandwich, the hot dog (and only the hot dog) becomes his opportunity cost. For the pitcher, the opportunity cost of baking cakes is pitching, and for the doctor, seeing patients is the opportunity cost of cutting his lawn.

A Numerical Example

Economic theory can help craft better public policy positions by understanding economic relationships. Economists have observed market choices and have clarified exactly how the law of association works. Economic analysis works by stripping away the nonessential elements so that only the crucial relationships remain. To accomplish this thought experiment, it is necessary to construct an economic model using the following assumptions. Suppose that in this model there are only two people (Rothbard and Keynes) and they produce two goods (bread [B] and garments [G]).[4] Labor hours are the only resource (input), and everything else is held constant. Furthermore, suppose that Rothbard is better than Keynes in everything, but not equally better in everything. Accordingly, we assume that Rothbard can make bread twice as fast as Keynes and make garments three times faster. In other words, it takes Rothbard one hour to produce one loaf of bread, while it takes Keynes two hours. And two hours are required for Rothbard to make one garment, while Keynes requires six. Finally, we also assume that the productive capabilities of each remain constant—that is, they do not learn from specialization or repetition. Placing twenty-four hours on the clock and evenly dividing their time between the two activities, we see the initial results in table 1. The total amount produced is eighteen loaves of bread and eight garments.

[4] This example is based upon Ayau (2007).

Table 1. Respective outputs

	Rothbard		Keynes	
Hours	12	12	12	12
Output	12B	6G	6B	2G

Now suppose that Rothbard says he would like more bread. One might leap to the erroneous conclusion that since he is better at making bread than Keynes, he should make the additional bread himself. While it might have been clear in the previous examples that the pitcher and doctor should specialize in what they do best, this example's solution is not quite as clear. Nevertheless, the principle remains the same: each should specialize in what they "do best." In other words, they should specialize in the activity that yields the lowest *relative* opportunity cost.

Finding the lowest relative opportunity cost cannot be done in isolation. In the lunch example, determining the opportunity cost was simple because it only involved one individual's subjective consumption preferences. However, when it comes to production and exchange, the opportunity cost depends on the productive capabilities of others. The law of association means that it is necessary to compare the productive capabilities of the two parties. In this example, when Rothbard commits two hours to produce one garment, he sacrifices the production of two loaves of bread. And when he produces one loaf of bread, he could have alternately used that time to finish half a garment. Keynes's opportunity cost for one garment is three loaves of bread, and that for making one loaf of bread is a third of a garment. These relations are illustrated in table 2.

Table 2. Respective opportunity costs

Rothbard	Keynes
1B=0.5G	1B=0.33G
1G=2B	1G=3B

To find the lowest relative opportunity cost, we compare the rows of the table. Reading across the first row, we see that the cost of producing one loaf of bread is higher for Rothbard (0.5G) than it is for Keynes (0.33G). In other words, Keynes has a comparative advantage in bread making even though Rothbard is better at making bread. Continuing this analysis, we see that Rothbard has a lower relative opportunity cost for producing garments than Keynes (2B for Rothbard versus 3B for Keynes). The conclusion is that they should each shift their production into the area in which they have a comparative advantage. Rothbard should shift his production into garment making, and Keynes should shift his production into bread making.

As this is a highly stylized example and to make the numbers come out in nice whole numbers, suppose that Keynes shifts his entire production to bread making while Rothbard only shifts four hours toward garment making. Table 3 shows the results of this change.

Table 3. Output after shifting production time

	Rothbard		Keynes	
Hours	8	16	24	0
Output	8B	8G	12B	0G

The total amount produced is twenty loaves of bread and eight garments. By simply shifting labor hours into the areas of comparative advantage, we see that two additional loaves of bread are created. These additional loaves are produced despite no additional time added, no new resources discovered, no extra labor imported, no new tools or technology developed, nor any new skills learned by Rothbard and Keynes. This result is amazing. It is almost like magic, but it is not magic. The additional production comes about because each has reduced his cost of production by specializing in his comparative advantage. In table 4, we see the results of allowing Rothbard and Keynes to trade at the ratio of two garments for five loaves of bread.

Table 4. Final gains after trade

	Rothbard		Keynes	
Output	13B	6G	7B	2G
Change	+1B	+0G	+1B	+0G

After the trade is complete, one might wonder which side benefited the most. The reality is that this question is nonsensical. There is no such thing as a "fair" way to measure relative gains. There are three perspectives by which we can compare the outcome of this specialization and exchange. If we examine the outcome in terms of bread, then we can see that Rothbard and Keynes equally gained one loaf of bread. However, if one measures the gains in terms of time saved, then Keynes gained more than Rothbard. For Keynes, one loaf of bread represents two hours of labor, while for Rothbard one loaf represents one hour. Finally, from the perspective of garments, Rothbard gains more, for one bread loaf represents half a garment to him, while one bread loaf represents only a third of a garment for Keynes. The idea that the United States should not trade with China because China has a greater benefit than the US is equally nonsensical. The only truth that can be deduced from this analysis is that total production has increased, whereby both parties are made better off.

Following the Law

The real world is much more complex than our simple two-party/two-good model. There are hundreds of millions of people in the US and uncountably many capital and consumer goods. Fortunately, to follow the law of association in the real world, we do not need an economist with an extremely large spreadsheet to determine where one's comparative advantage lies. To find a person's comparative advantage, all that is needed is to allow him to minimize his opportunity cost. Again, in a free market, this solution is not hard to find. To demonstrate how simple it is, suppose you are asked to choose between three jobs that are identical in every way except for the salary. Job A's salary is $55,000 per year, B's is $45,000 per year, and C's is $35,000 per

year. To find your comparative advantage, you need to minimize your opportunity cost. When presented with the choice between these three jobs, you obviously choose Job A. The opportunity cost—the next best, forgone alternative—is the $45,000 that could have been earned from Job B. If for some reason you chose Job B, then the opportunity cost would be the $55,000 that could have been earned from Job A. The opportunity cost of selecting Job C is also $55,000. These results are summarized in table 5.

Table 5. Job salaries and opportunity costs

	Salary	Opportunity cost
Job A	$55,000/year	$45,000/year
Job B	$45,000/year	$55,000/year
Job C	$35,000/year	$55,000/year

As previously mentioned, finding one's comparative advantage is the same as minimizing one's opportunity cost. As we can easily see in table 5, minimizing one's opportunity cost is the same as maximizing one's revenue. The conclusion is that to follow the law of association, one only needs to take the job that benefits oneself the most. People naturally take the jobs that benefit themselves the most, and therefore, in a free market, people naturally tend to follow the law of association. Economic analysis is not necessary to make the law of association work. Instead, economic analysis helps to differentiate good public policy from bad.

From the analysis of comparative advantage, the principle which emerges is that minimizing opportunity costs is the key to gaining benefits from specialization and exchange. While the example in table 5 uses dollars, opportunity cost is a broader concept. In the real world, a person might reject a higher-paying position for many reasons, such as the impact on his quality of life, the impact on time spent with family, or the necessity of relocating to another area. Thus, if, for nonpecuniary reasons, one picks a job with a lower salary, it does not violate the law of association because that person is still selecting the most

favored alternative, thereby minimizing his opportunity cost. Making a choice based on directly valuing the alternatives is called "economic calculation." When the choice is based upon objective prices, this decision uses "monetary calculation." Mises determined that while monetary calculation is not perfect, it aligns with economic calculation to such an extent that "were we to dispense with [monetary calculation], any economic system of calculation would become absolutely impossible" (Mises 1990, 25; see Mises 2024, chap. 13). In a market system, prices are guides that provide information to allow people to reasonably follow the law of association, minimize their opportunity costs, and expand production.

An Optimal System

To follow the law of association, the best policy a society can adopt is a system of true free-market prices. Market prices are packets of information that contain everyone's subjective valuations. They carry the subjective valuations of the consumers who think the price is too high, too low, and just right. They also contain the subjective valuations of the producers who think the price is too high, too low, and just right. They are the result of everyone's input. Market prices are paramount because they allow decision-makers to engage in monetary calculation. As Mises notes, "Monetary calculation is the main vehicle of planning and acting in the social setting of a society of free enterprise directed and controlled by the market and its prices" (Mises 2024, 231). Without true market prices, monetary calculations would be distorted, resources would be misdirected, and capital would be malinvested. Thus, to avoid waste, public policy should steer clear of interventionism. A corollary conclusion is that the government should eschew inflation, monetary expansion, and all other forms of intervention that distort prices.

The Building Block of Society and Civilization

The placement of the law of association in *Human Action* might seem odd. It is in "Part Two: Action within the Framework of Society," which is before the introduction of economic calculation, exchange (catallactics), and the market. One might think that since the law

explains the benefits of exchange, it should come after the analysis of the market. Mises, however, is correct in placing this law before any analysis of trade. The law of association explains why people do not live in isolation.

The law of association is essential for the existence of society. If the law were not true, then there would be no reason for communities to coalesce. The law shows that when people indirectly cooperate through specialization and exchange, they increase the quantity of economic goods at their disposal. When people do not specialize and trade, the combined output is merely the summation of their autarkic production (A + B = 2). However, when people specialize and exchange, costs are reduced, and society's total output is greater than before (A + B > 2). Society exists because we can indirectly cooperate. Because I can gain when I trade my produce for my neighbor's, I have the incentive to be a part of a community. When people specialize according to their comparative advantage and exchange, this indirect cooperation results in human flourishing.

The implications of the law of association are greater than a simple materialistic gain. The differences in our opportunity costs are the sources of our comparative advantages; if everyone were identical, then there would be no gains to be made. The implication is that a diverse society is needed. Moreover, gains are made by indirect cooperation. Indirect cooperation means that each person specializes in a particular area of production. By specializing in one area, each person becomes dependent on everyone else to provide all other goods and services. For example, a baker depends on others to grow wheat and mill it into flour. The baker also depends on countless other individuals for all the other ingredients to make a cake. Still further, the baker requires the assistance of more individuals to make the oven and supply the energy to operate it. The baker makes more cakes than he could possibly use. He makes this excess amount for the market because he wants more than cakes. He wants clothes, shelter, transportation, entertainment, and so forth. He relies on society for all his other noncake needs. Thus, he produces cakes for others. To entice people to trade with him, he must serve his customers—he must envision what their wants and desires are and place them above his own preferences. By catering to strangers, he can gain the wherewithal (money) to then go into the market and obtain what he desires. The

virtue is that he must serve strangers before he can take for himself. In this extended market order, we see the realization of the ideal for society—a peaceful, voluntary pluralism.

To conclude with a note from Mises (2024, 160), "Praxeology solves the problem. If and as far as labor under the division of labor is more productive than isolated labor, and if and as far as man is able to realize this fact, human action itself tends toward cooperation and association; man becomes a social being not in sacrificing his own concerns for the sake of a mythical Moloch, society, but in aiming at an improvement in his own welfare. [Since] this condition . . . is real . . . we are in a position to comprehend the course of social evolution."

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2

How *Human Action* Shaped My Teaching and Research Career

Thomas J. DiLorenzo

I began my graduate studies in economics at the Virginia Polytechnic Institute and State University in the fall of 1976 (VPI changed its name to Virginia Tech once it got a better football team). The Center for Study of Public Choice was located there, and I looked forward to studying under James M. Buchanan, Gordon Tullock, and the other public choice scholars. The department was predominantly Chicago School oriented in general, with Buchanan and Tullock both being University of Chicago graduates (Buchanan in economics, Tullock in law).

Buchanan was a fellow traveler of the Austrian School, having published two impressive books on subjective cost theory—*Cost and Choice* (Buchanan 1999) and *What Should Economists Do?* (Buchanan 1979)—and a number of articles as well. Tullock was not known as an Austrian economist, but he frequently boasted that reading *Human Action* was what made him an economist. Because of the trial lawyer in him, he always enjoyed instigating a good debate or argument, and so he often added that "anyone who needs more than that to understand economics is stupid!"

Buchanan's former University of Virginia student Richard Wagner, who was on the VPI faculty, was much more of an Austrian and was

assigned to teach the first graduate course in microeconomics in the fall of 1976. He used two textbooks and a long reading list of academic journal articles, including Austrian School readings. The two textbooks were *Human Action* and Milton Friedman's (2007) *Price Theory*, which was being used in the Chicago graduate program at the time. One of the final exam questions was to compare the methodologies of the study of economics in the two books.

The use of *Human Action* and exam questions like that in the first microeconomics course spawned a war between Buchanan and the center and their supporters in the economics department, and the imperious game theorist/mathematical economics contingent. The latter apparently wanted graduate students to spend endless hours solving mathematical puzzles as opposed to reading great economic literature like *Human Action*. To make matters worse from their perspective, the graduate program, which was essentially the work of Buchanan, included *three* courses in the history of economic thought, taught in my first year by the great Professor Edwin G. West.

There were two weekly seminars with invited economists visiting VPI, one by the Center for Study of Public Choice and the other by the economics department. The departmental seminars were a combination of public choice–type speakers and math-econ speakers. One of the math-econ speakers made a big impression on me at the time. He was a distinguished Princeton University mathematical economist who filled several blackboards up with equations with a model of the hamburger market. When Gordon Tullock said (paraphrasing), "But professor, this isn't anything at all like the real hamburger market," the Princeton economist's response was (paraphrasing): "I'm not interested in the real hamburger market; I'm interested in my model."

That, in a nutshell, was to me a crystal clear explanation of the uselessness of that approach to the study of economics, if it can even be called a study of economics. It was this conflict between the two factions that eventually led to the center leaving VPI and moving to George Mason University, where I was on the economics faculty by that time.

The mathematical economists at VPI prevailed, turned the department into a department of game theorists, and had so few students interested in graduate studies in game theory in Blacksburg, Virginia, that the PhD program was abolished by the university. I have found

this intolerant, imperious, and closed-minded attitude among the "quantitative economists," with their sneering critiques of economic *literature*—including literature about the history of their own discipline—to be pervasive during my forty-one-year academic career as a university economics professor. I suppose the reason for this is that they never really considered economics to be their true discipline, but rather game theory/mathematics.

This, of course, is great news for the Austrian School, where anyone in the world can do what Gordon Tullock did and become his own economist by reading *Human Action*! The University of Michigan students who spontaneously began chanting when Ron Paul showed up there in 2012 to campaign for the Republican nomination were not chanting "Game theory! Game theory!" They were chanting "End the Fed! End the Fed!" because they had read some of the works of Austrian economists, probably Rothbard's (2024) *What Has Government Done to Our Money?*

I thought of Professor Wagner's microeconomics course as by far the best course I took in that first year. His classroom lectures on the substance of *Human Action* and other Austrian literature were so fascinating to me that I couldn't wait for the next class (and got the highest grade on the midterm!). Little did I know that such teaching would never occur again in the graduate program at VPI after that year.

As just one example of the inspiring brilliance of *Human Action*, consider the substance of chapter 15, "The Market." In a mere sixty-six pages you learn of the spontaneous order of markets and the invisible hand theorem. Then comes the explanation of how freedom of exchange exemplifies the mutual cooperation of markets. The role of private property and of free-market *prices* is then explained.

The myth of the "mixed economy" comes next. Yes, we have many socialist industries operated by all levels of government, but the core of the economy is still based on capitalism and free-market pricing. The importance of capital accumulation as the starting point for economic calculation is introduced, as are the crucial roles of income, savings, and capital accumulation.

Just getting started, Mises then explains the economics of the failures of socialism, still in chapter 15! "Economics is the theory of all human action," he then declares, and devotes the next five hundred pages to demonstrating that fact.

The role of consumer sovereignty is explained in one of the most memorable passages in *Human Action*, where Mises explains that it is not the bankers, plant managers, and business executives who decide what gets produced but the consumer, whom he describes as hard-hearted and downright cruel when it comes to dropping one product for a slightly superior substitute that crops up.

No "mainstream" textbook says what comes next, that government, contrary to the market, is all about compulsion and coercion. Politicians decide for you what you supposedly want, then force you to pay for it with threats of fines, imprisonment, or worse.

Catallactic competition is perhaps the key to chapter 15, for it describes the Austrian view of competition as a dynamic, rivalrous, ongoing process of entrepreneurial discovery and has nothing to do with the Alice-in-Wonderland theory of "perfect" competition. In perfect competition there is no competition, as Friedrich von Hayek famously said.

Nor will you ever run across a discussion of the role of freedom in society in any "mainstream" economics text, especially Mises's (1998, 280) statement that in the totalitarian socialist countries of his day the only real freedom was the freedom to commit suicide. Rereading that passage reminded me of stories the late Yuri Maltsev told me about how some of his friends back in the Soviet Union literally drank themselves to death at an early age, effectively committing suicide, because they saw no future, no progress, and no hope for a better life under socialism, and the only thing they really enjoyed was drinking.

In a passage that could get some college professors fired on the spot today, Mises (285–86) then sings the praises of the *inequality* of wealth and income based on the division of labor, entrepreneurship, saving habits, pay according to merit, work ethic, and myriad other natural economic causes. Then, instead of deploying a blur of equations about formulas for profit maximization, Mises clearly explains the role of the profit and loss system of free-market capitalism, something that everyone should understand in order to understand the colossal destructiveness of government bailouts, such as the hundreds of billions of dollars in bailouts to the big banks during the Great Recession of 2008. Such bailouts announced that bank profits are to be private, but losses are to be socialized and borne by the taxpayers one way or another.

If your typical mainstream economics textbook even mentions entrepreneurship, it is usually in a few paragraphs or maybe part of a page, along with a picture of Joseph Schumpeter and his slogan about the "creative destruction" of competition. Aside from the fact that the slogan is dead wrong about competition being "destructive" to society, it is pathetic that this all-important topic—the substance of which explains how markets really work—is largely ignored. Mises here introduces the topic with fifteen dense pages and then continues the discussion all throughout the remaining five hundred pages.

We're not finished yet. Chapter 15 will also teach you why the words "bureaucracy" and "bureaucrat" have such negative connotations. It's not because government bureaucrats are necessarily bad people, but because there is such a dramatic difference between profit management and bureaucratic management. Finally, you also learn the case for free trade and against protectionism. All in that sixty-six pages. You could write similar explanations of all the economic lessons learned in each of the other thirty-eight chapters of *Human Action*.

The "Mainstream"

My second semester of graduate microeconomics was a different world, using the standard quantitative microeconomics textbook of the day: *Microeconomic Theory: A Mathematical Approach*, by James Henderson and Richard Quandt (1980), with the latter having the perfect surname for a mathematical economist. Henderson and Quandt, as it was known, seemed simple minded, sometimes plain wrong, and void of economic intuition or what many call "the economic way of thinking." It was more like an engineering school exercise than an economics book, and the same can be said of its successors in today's textbook market, only even more so.

"The basic problem" addressed in this book, said the authors, was not explaining how and why economics is a theory of all human action but "teaching . . . economics in mathematical terms." Why use plain English when you can use mathematical notation (or hieroglyphics) instead? "Math is the language of economics," announces Nobel laureate economist Thomas Sargent today on his personal website (https://www.tomsargent.com/math_courses.html), where he advises

prospective economics graduate students to essentially earn a math degree before even thinking of applying to graduate school in the discipline of economics.

The entrepreneur *was* mentioned in Henderson and Quandt, but in an odd way: the entrepreneur is "owner and manager," whose only function is to "transform inputs into output." No discussion of entrepreneurial alertness, speculation, promotion, arbitrage, or anything else. And the only "entrepreneurs," by definition, were sole proprietors who are "owner and manager" at the same time. That rules out any and all entrepreneurial behavior in any other type of corporate setting, by definition. Elon Musk is not entrepreneurial by that definition—contrary to reality—nor would Steve Jobs have been, or Henry Ford or John D. Rockefeller, for that matter.

In order to transform the historic meaning of competition as dynamic, rivalrous behavior into a system of equilibrium conditions, the theory of perfect competition was invented, with its bizarre assumptions of perfection meaning homogeneous commodities, identical consumers, "numerous" firms in each industry, omniscience or "perfect information," and zero-opportunity-cost entry into and exit from an industry. Any deviations from these assumptions, intoned Henderson and Quandt, mean a market "imperfection." The usual recommendation was for perfect politicians and bureaucrats to then correct these imperfections, for "monopolistic elements" might then be present, which would necessitate what the authors called "appropriate" taxing and subsidizing.

There was no discussion of the role of time preference in Henderson and Quandt, who defined interest as merely the cost of borrowing or the income from lending. They also claimed that through the magic of modern mathematics it was possible to compile all of "society's" preferences into one big "social welfare function" to represent all of society's ("or a dictator's," they wrote) preferences.

As one example of how truly misleading this approach to the study of economics has been, consider the statement in Henderson and Quandt that taxes and subsidies may be appropriate to eliminate deviations from perfect competition. This notion became a stock part of the "market failure" chapters in mainstream microeconomics textbooks for decades, with many of them using the example of

apple orchards and beekeepers as a source of market failure in need of taxes or subsidies for market correction. Bees help to pollinate the apple orchards at the right time of year, the argument went, but there is no mechanism to ensure that beekeepers will have their hives in the vicinity of the orchards so as to achieve that result. Therefore, there is an underproduction of both apples and honey since the apple blossoms feed the bees. There is a reciprocal positive externality, if you will, but no way to make it happen because of the ignorance of beekeepers and apple orchard owners about all of that uncollected profit.

Until Professor Steven Cheung of the University of Washington came along, that is. In an article entitled "The Fable of the Bees" published in the *Journal of Law and Economics* in 1973, Professor Cheung (1973) reported that for generations, very detailed contracts existed between apple orchard owners and beekeepers to address the "market failure problem" that, it turns out, was actually no problem at all. The contracts were so detailed that some even stipulated that two weeks' warning would be given to the beekeepers before pesticides were to be sprayed on the apple trees.

The apple orchard owners and beekeepers of Washington State did not need a Nobel Prize–winning MIT mathematical economist to tell them how to make money selling apples and honey after all. There have since been many other scholarly articles documenting the falsehood of such "market failure" fables—fables that were all premised on a faulty and frankly absurd theory of competition.

Reading *Human Action,* you are inevitably impressed by the enormous depth of Mises's knowledge, not only of economic theory and the history of economic thought but also of psychology, philosophy, political philosophy, political economy, critiques of the inappropriate use of mathematics, and more. The mathematical economists like Henderson and Quandt seemed like mental midgets (I mean size-challenged persons) by comparison.

Human Action was my gateway drug to Austrian economics. Although I was familiar with some of the other Austrian economists, such as Hayek and Israel Kirzner, from reading *The Freeman* as an undergraduate, I had not read any of their scholarly work. It was *Human Action* that motivated me to expand my education in the Austrian School, and so I did.

Early Applications

My early academic research was shaped by Austrian School and public choice economics. The whole edifice of antitrust law and economics seemed counterintuitive to me in light of the Austrian view of competition as a dynamic, rivalrous process of entrepreneurial discovery. So when even Chicago School economists like George Stigler, who were so critical of "regulatory capture," said that the one exception—the one type of government regulation that is truly in the public interest—is antitrust regulation, I smelled a rat.

My suspicions were proven correct by Dominick Armentano's (1990) outstanding 1983 book *Antitrust and Monopoly: Anatomy of a Policy Failure*. In it he documented that in the fifty-five most famous federal antitrust cases up to that time, in each and every instance the businesses sued by the government for violating the antitrust laws were *dropping* prices, *expanding* production, inventing and marketing *new* products, increasing product quality, or some combination thereof. They were the most innovative and competitive, in other words, and for that they were prosecuted to the detriment of their customers but to the benefit of their less efficient competitors.

But the Chicago School regulatory critics clung to their theory that there was still a golden moment of antitrust, around 1890, that justified the Sherman Antitrust Act. I proved even that to be a falsehood in a 1985 article in the *International Review of Law and Economics* entitled "The Origins of Antitrust: An Interest-Group Perspective" (DiLorenzo 1985). In that article I showed that all of the industries accused of "monopolization" to justify the 1890 Sherman Act had in fact been cutting their costs and prices for decades, expanding production, and inventing myriad new products, and were by far the most dynamic and competitive industries in the US at the time. Antitrust was always a protectionist racket.

In a 1988 article in *Economic Inquiry*, Jack High and I wrote of how every academic economist in America was opposed to antitrust regulation in principle in 1890 because they all thought of competition as the Austrians always have, and therefore concluded that antitrust regulation was *inherently* incompatible with competition (DiLorenzo and High 1988). We also argued that once the perfect competition model was more widely accepted—by the 1930s—more and more

economists were in favor of antitrust. But the economists of 1890 saw the effects of the merger wave of the late 1880s—greater production, more products, lower prices for years and years—and were not taken in by any theories of "perfection." Then there is the comment by George Stigler (1982) that economists embraced antitrust regulation once they learned that they could make considerably more than the minimum wage as antitrust consultants.

Thanks to my understanding of competition in the Austrian tradition, I was also suspicious of the "natural monopoly" story about how public-spirited politicians created government-mandated monopolies in the late nineteenth and early twentieth centuries to protect economically defenseless Americans from rapacious "natural" monopolists in the public utilities industries. Such regulation promised the best of both worlds: The advantages of economies of scale would be maintained, and benevolent and public-spirited politicians would set prices at competitive levels. Maybe it's just my personal quirkiness, but I thought that mandating monopolies in the name of protecting consumers from monopolies sounded, well, crazy.

In "The Myth of Natural Monopoly," I showed that the standard story of one "large" firm using economies of scale to monopolize electric power, water supply, telephone, and other utilities industries simply never happened and was always just a theory concocted by statist economists to justify state control of those industries (DiLorenzo 1996). It was government-mandated monopoly in these industries that created—guess what?—monopoly power over hapless consumers for the benefit of powerful special corporate interests and their political benefactors. When utility monopoly began, it was a loot-sharing scheme between the government grantees of monopoly power and the governments themselves, who shared in the monopoly loot by being paid a contractual percentage of gross revenues every year as a form of hidden taxation—hidden in utility bills.

A big part of the public choice research agenda during my VPI days was on the economics of rent seeking. An early example was lobbying for protectionist tariffs, with the act of lobbying designated as an economic "waste" or "social cost" since the opportunity cost of that activity would be trying to earn money the old-fashioned way instead—through product improvement and/or cost and price reduction or innovation.

That was all well and good, but in their own act of rent seeking, some of the public choice scholars attempted to widen the scope of rent seeking to include such competitive, free-market activities as advertising, product differentiation, and research and development. In "The Domain of Rent-Seeking Behavior: Private or Public Choice?" published in the *International Review of Law and Economics*, I explained why, in light of the Austrian theory of competition, these were all normal, competitive activities and should not be labeled as a wasteful "social cost" (DiLorenzo 1984). I later published a second article on this subject in the *Journal of Institutional and Theoretical Economics* (DiLorenzo 1988).

Then, when my old professor and George Mason colleague James Buchanan won the Nobel Prize in 1986, Chuck Baird, the editor of the *Review of Austrian Economics*, asked me to write an article for the journal about Buchanan's connection to the Austrian School, which I did. In "The Subjectivist Roots of James Buchanan's Economics," I explained his contributions to subjective cost theory, as discussed above, and how they influenced the work that he was most known for—in public finance. I also criticized him for abandoning his subjective cost theory background in some of his articles, especially one in which he argued for the abolition of inheritance, one of his lifelong pet peeves. I concluded that his best work was inspired by Austrian-based subjective cost theory and that some of his worst was when he abandoned that tradition (DiLorenzo 1990).

These are a few examples of my research that was inspired by Austrian economics. I was also inspired by Mises's comments in *Human Action* on the study of history.

Mises on the Study of History

"A mercantilist or neo-mercantilist must necessarily be at variance with an economist," Mises wrote in *Human Action*; also "Subjective economics produces historical works very different from those based on mercantilist doctrines" (Mises 1998, 53). Such comments are what convinced me to write *The Real Lincoln* (DiLorenzo 2003) and *Hamilton's Curse* (DiLorenzo 2008). Having been a Civil War history buff, I began studying Lincoln's economic policy ideas in the late 1990s to see if there might be a way to combine my hobby of

Civil War history with my profession of economics. After attending a number of Civil War history lectures at the Smithsonian Institution in Washington, DC, featuring all the Ivy League bigshot scholars in the field, I began asking them what readings I could pursue about Lincoln's economics. Several of them recommended *Lincoln and the Economics of the American Dream* by Gabor Borrit (1978).

The book's economic commentary was grade-schoolish, saying such things as that Lincoln supported protectionist tariffs because, being so big hearted, he wanted the common man to have a chance to become wealthy and prosperous the way he had become wealthy and prosperous. The implication was that "prosperity" would be the result of protectionist tariffs, central banking, and corporate welfare, the three legs of the Lincoln/Republican Party of 1861 political platform, things that Lincoln had spent the previous twenty-eight years of his political career advocating. He was a mercantilist, through and through, as any student of economics should immediately recognize. But not one student of American history, even the most prominent in the academic history profession, apparently. I ended up writing three books about Lincoln the mercantilist.

Alexander Hamilton is the real father of crony capitalism, or mercantilism, in America, labeling the combination of protectionism, central banking, and corporate welfare "the American System." It was in reality the rotten, corrupt, impoverishing system of British mercantilism in drag—British mercantilism without the British. I was motivated to write *Hamilton's Curse* in response to a silly book by John Steele Gordon entitled *Hamilton's Blessing*. Hamilton famously announced that a large public debt would be a blessing because it would tie the moneyed class that would purchase the government bonds to the government and help guarantee that all of Hamilton's planned tax increases would prevail. The moneyed class would want to ensure that there was enough money in the treasury to pay the principle and interest on their bonds, according to the Machiavellian Hamilton, and would therefore be a powerful political force for bigger government. Understanding subjectivist economics enables you to see through several centuries of political fog regarding a figure like Hamilton.

The study of history is not just a recording of facts, Mises (1998, 53) wrote: "History can never be studied without presuppositions, and . . . nonhistorical branches of knowledge [like economics] must

determine the establishment of historical facts" and their meaning. Austrian economics can be a lens through which many important historical events are studied. Thus, wrote Mises, "changes in the teachings of the nonhistorical sciences consequently must involve a rewriting of history."

The discussion of interventionism in *Human Action* also informed my research and writing of *How Capitalism Saved America* (DiLorenzo 2004), in which I discuss numerous episodes in history where government interventionism created calamity after calamity, after which a greater degree of economic freedom came to the rescue, thereby "saving" America and Americans from at least some of the follies of the country's "only native criminal class," as H. L. Mencken called them—namely, politicians.

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3

Ludwig von Mises's Epicurean Ethics

David Gordon

These days, Stoicism is very fashionable, and popular books on this subject are easy to find. Ludwig von Mises draws from a different tradition of Greek ethics, Epicureanism. Mises sees in Epicurus, a Greek philosopher who lived from 341 to 270 BC, the beginning of an approach to ethics that he took to be correct.[1] In what follows, I won't be concentrating on the details of Epicurus's views but rather on some points that Mises takes from him.

Mises maintains that there are two ways of looking at ethics: one is that ethics is about how each person can satisfy his personal preferences, and the other is that there is an objective law that dictates what people ought to do. Mises places almost all ethical systems except for utilitarianism, which he sometimes calls "Eudaemonism," in the latter camp. These systems include natural law ethics, divine command ethics, and Kantian ethics. Natural law ethics says that human beings have a certain nature or essence that dictates what they ought to do. Divine command ethics says that God dictates rules that people are required to follow. Kantian ethics says that just through pure reason, we can know that there are moral imperatives—that is, things you are required to do. Here is a passage from Mises's book *Socialism*:

[1] A good source for the ethics of Epicurus, written for a popular audience but in command of the latest scholarship, is Austin (2023).

> Of course one cannot discuss this point with the ethical *a priori*-ist or the intuitionist. Those who uphold the Moral as ultimate fact, and who rule out scientific examination of its elements by referring to a transcendental origin, will never be able to agree with those who are dragging down the concept of Right into the dust of scientific analysis. Ethical ideas of duty and conscience demand nothing less than the blindest submission. *A priori* ethics, claiming unconditional validity for its norms, approaches all earthly relations from the outside and aims at transmuting them into its own form with no concern whatever for the consequences. *Fiat iustitia, pereat mundus* is its motto, and it is when it becomes honestly indignant about the eternally misunderstood plea, "the end justifies the means," that it is most sincere.[2] (Mises 1951, 396–97; emphasis in original)

Here is another passage in which Mises contrasts an ethics based on satisfying one's preferences with an ethics of duty. This is from *Epistemological Problems of Economics*:

> The most troublesome misunderstandings with which the history of philosophical thought has been plagued concern the terms "pleasure" and "pain." These misconceptions have been carried over into the literature of sociology and economics and have caused harm there too.
>
> Before the introduction of this pair of concepts, ethics was a doctrine of what ought to be. It sought to establish the goals that man should adopt. The realization that man seeks satisfaction by acts both of commission and of omission opened the only path that can lead to a science of human action. If Epicurus sees in αταραξια [*ataraxia*][3] the final goal of action, we can behold in it, if we wish, the state of complete satisfaction and freedom from desire at which human action aims without ever being able to attain it. Crude materialistic thinking seeks to circumscribe it in visions of Paradise and Cockaigne. Whether this construction

[2] *Fiat justitia, pereat mundus* is a Latin maxim that means that justice must be done, regardless of consequences. It is the antithesis of Mises's approach, in which consequences are all that matter, once an ultimate end has been specified. The plea "the end justifies the means" is "eternally misunderstood" because it suggests that one can do evil so long as one's goal is good, but its true meaning is that the means to an end derive their value from the end, as explained below.

[3] *Ataraxia* refers to a final state of rest in which people no longer have unsatisfied desires.

> may, in fact, be placed on Epicurus' words remains, of course, uncertain, in view of the paucity of what has been handed down of his writings. (Mises 2003, 159–60)

To understand Mises's position on ethics, it is essential to bear in mind that he is a psychological hedonist. He thinks everyone is always motivated by pleasure and pain, a view that comes straight from Epicurus. We seek pleasure and avoid pain. You might object that this is obviously false. Don't we do things very frequently like go on restrictive diets, exercise, study subjects that aren't fun, and so on? How can Mises then claim that we are always motivated by pleasure? Mises's answer is that even though we are motivated by pleasure and pain, it doesn't follow that we are motivated by what will give us the most pleasure, or the least pain, at a given moment. We can be motivated by our wish for the most pleasure, or the least pain, over a long period of time. Doing things that are unpleasant now can bring us more pleasure in the long run.

Another point essential to understanding Mises is that when he talks about "pleasure" and "pain," this isn't confined to physical sensations. Mises is talking about whatever we prefer and whatever we are averse to. We aim to satisfy our preferences and to remove "felt uneasiness." In *Human Action*, Mises (1998, 13–14) says:

> We call contentment or satisfaction that state of a human being which does not and cannot result in any action. Acting man is eager to substitute a more satisfactory state of affairs for a less satisfactory. His mind imagines conditions which suit him better, and his action aims at bringing about this desired state. The incentive that impels a man to act is always some uneasiness. A man perfectly content with the state of his affairs would have no incentive to change things. He would have neither wishes nor desires; he would be perfectly happy. He would not act; he would simply live free from care.

If we are motivated by our long-term pleasure, Mises goes on to say, we need to cooperate with other people. We can greatly improve our chances of survival, and thus of having more pleasure in the long run, if we do this. In this way, we can vastly increase our productivity

through the division of labor. Mises (1951, 432) puts the point in this way:

> For liberal social theory proves that each single man sees in all others, first of all, only means to the realization of his purposes, while he himself is to all others a means to the realization of their purposes; that finally, by this reciprocal action, in which each is simultaneously means and end, the highest aim of social life is attained—the achievement of a better existence for everyone. As society is only possible if everyone, while living his own life, at the same time helps others to live, if every individual is simultaneously means and end; if each individual's well-being is simultaneously the condition necessary to the well-being of the others, it is evident that the contrast between I and thou, means and end, automatically is overcome.

This issue of pleasure versus duty was a main source of contention between the Epicureans and the Stoics, with the Epicureans arguing for pleasure and the Stoics for survival. In most cases, the two types of ethics will come up with similar practical advice. Why, then, does Mises emphasize the differences between the Stoics and the Epicureans?

The answer is that Mises thinks that the survival view leads to the position that there is an objective law of nature that tells people they ought to aim at their own survival. This is in fact what the Stoics believed: people ought to do their duty and act in accord with virtue, because this is in accord with a law of nature. This is just what Mises denies. According to him, all laws of nature are just descriptions of how nature operates. They don't say that it's good that nature act that way, or that it ought morally to do so. Nature doesn't have goals or ends; it just is. As will be apparent, this is an anti-Aristotelian position.

Reason can't tell you what you ought to want, but it has an instrumental role to play. It can tell people, "If you want to get the most long-run pleasure, you ought to support social cooperation in the free market." But doesn't this just reintroduce "ought," in this case as part of a hypothetical? If Mises rules out laws about what people ought to do, is he guilty of just the error he condemns?

I do not think that he is. We can simply reword the hypothetical to read, "Social cooperation through the free market increases everyone's

long-run pleasure." In that way, the strict separation between descriptive and normative judgments is preserved. When Mises says that the free market works better than alternative systems, then, he is making a strictly scientific statement, not a subjective "value judgment." He says in *Liberalism*:

> Liberalism is derived from the pure sciences of economics and sociology, which make no value judgments within their own spheres and say nothing about what ought to be or about what is good and what is bad, but, on the contrary, only ascertain what is and how it comes to be. When these sciences show us that of all the conceivable alternative ways of organizing society only one, viz., the system based on private ownership of the means of production, is capable of being realized, because all other conceivable systems of social organization are unworkable, there is absolutely nothing in this that can justify the designation "optimistic." That capitalism is practicable and workable is a conclusion that has nothing to do with optimism.
>
> To be sure, the opponents of liberalism are of the opinion that this society is very bad. As far as this assertion contains a value judgment, it is naturally not open to any discussion that intends to go beyond highly subjective and therefore unscientific opinions. As far, however, as it is founded on an incorrect understanding of what takes place within the capitalist system, economics and sociology can rectify it. This too is not optimism. Entirely aside from everything else, even the discovery of a great many deficiencies in the capitalist system would not have the slightest significance for the problems of social policy as long as it has not been shown, not that a different social system would be better, but that it would be capable of being realized at all. But this has not been done. Science has succeeded in showing that every system of social organization that could be conceived as a substitute for the capitalist system is self-contradictory and unavailing, so that it could not bring about the results aimed at by its proponents. (Mises 1985, 88–89)

We can now identify the last step in Mises's argument. This is that almost everyone does in fact want an abundance of material goods for a long period of time. People who don't have this preference will tend to die out. Thus, the judgment "the free market will best satisfy

the preferences of almost everybody" is not a normative statement—in his view a subjective judgment—but an objective truth. To understand what Mises is saying, we should look at two passages in *Human Action*.

On the one hand, he says that if people don't want a life in which they are seeking well-being but prefer a vegetative life, this is an ultimate value judgment; and praxeology, which is a value-free science, can say nothing against this:

> Some philosophies advise men to seek as the ultimate end of conduct the complete renunciation of any action. They look upon life as an absolute evil full of pain, suffering, and anguish, and apodictically deny that any purposeful human effort can render it tolerable. Happiness can be attained only by complete extinction of consciousness, volition, and life. The only way toward bliss and salvation is to become perfectly passive, indifferent, and inert like the plants. The sovereign good is the abandonment of thinking and acting.
>
> Such is the essence of the teachings of various Indian philosophies, especially of Buddhism, and of Schopenhauer. Praxeology does not comment upon them. It is neutral with regard to all judgments of value and the choice of ultimate ends. Its task is not to approve or to disapprove, but to describe what is. (Mises 1998, 28–29)

On the other hand, he says that almost no one is an ascetic:

> Asceticism teaches that the only means open to man for removing pain and for attaining complete quietude, contentment, and happiness is to turn away from earthly concerns and to live without bothering about worldly things. There is no salvation other than to renounce striving after material well-being, to endure submissively the adversities of the earthly pilgrimage and to dedicate oneself exclusively to the preparation for eternal bliss. However, the number of those who consistently and unswervingly comply with the principles of asceticism is so small that it is not easy to instance more than a few names. It seems that the complete passivity advocated by asceticism is contrary to nature. The enticement of life triumphs. The ascetic principles have been adulterated. Even the most saintly hermits made concessions to life and earthly concerns which did not agree with their rigid principles. But as soon as a man takes into account any earthly concerns,

> and substitutes for purely vegetative ideals an acknowledgment of worldly things, however conditioned and incompatible with the rest of his professed doctrine, he bridges over the gulf which separated him from those who say yes to the striving after earthly ends. Then he has something in common with everyone else. (178–79)

Thus we see how Mises tries to remain within the strict limits of science when he says that the free market enables human beings to get what they want.

I'd like to mention a final objection one might raise to Mises's position about ethics. When he says, commenting on asceticism, that "the enticement of life triumphs," isn't he saying that it's part of human nature to want to live? In that case, isn't he a supporter of natural law, despite his repeated opposition to natural law theories of ethics? Once again, he can escape the objection. Mises is not saying that people ought to act in accord with the life instinct but that they in fact do so. He is not making an ultimate "ought" judgment but keeping within the bounds of science.

In conclusion, I have tried to show that Mises has a well-developed conception of ethics that merits our careful attention. That is a normative judgment of my own but, because I don't think that all normative judgments are subjective, a judgment that I claim is objectively true.

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4

Human Action, the Way Forward

Jeffrey M. Herbener

As Joseph Schumpeter (1954, 181–94) remarked, Adam Smith and the British Classical School shunted economics onto the wrong track. By grounding their analysis on the activity of the businessman, the British Classical School economists derailed the realistic value theory that had been under development from the scholastics to A. R. J. Turgot (Rothbard 1995, 383–413). The Marginalist Revolution raised the hope that the economic train was back on track by emphasizing the subjective valuation of consumers in price theory. The work of the marginalist authors, however, turned out to be only a crossroads for economics. The Mengerian path of causal-realist method has indeed proven to be the way forward for economics. The formal-modeling method of mainstream economics has served to derail economics once again.

Before the end of the 1920s, Ludwig von Mises had anticipated the fateful turn mainstream economics was to take. He devoted his *Epistemological Problems of Economics* to the fundamental issue that had derailed economics in the nineteenth century: faulty value theory employed by British Classical economists; and the fundamental issue that would derail economics in the twentieth century: faulty method employed by mainstream economists.

As Guido Hülsmann (2003, x–xi) pointed out in his introduction to the third edition of *Epistemological Problems of Economics*:

First, Mises argues that the Austrian theory of value, which had been developed by Carl Menger and his followers, is the core element of a general theory of human behavior that transcends the traditional confines of economic science. Value theory applies to human action at all times and places, whereas economic theory only applies to a special subset of human action, namely, to human action guided by economic calculation. In *Epistemological Problems of Economics*, Mises not only explains these fundamental distinctions and stresses that economics is just one part of a general theory of human action. He also ventures into the elaboration of this general theory, in particular, through the analysis of its central component—value theory. Mises contributes a thorough critique of the value theories of Carl Menger and Eugen von Böhm-Bawerk, and in several chapters of the book carefully refines and restates value theory.

Second, Mises argues that the general social science of which economics is the best-developed part has a rather unique logical and epistemological nature. In distinct contrast to the natural sciences it is not based on observation or any other information gathered through the human senses. It relies on insights about certain structural features of human action, such as the fact that human beings make choices or that they use self-chosen means to attain self-chosen ends. The validity of economic theory does therefore not stand and fall with empirical investigations. Rather, economic laws are a priori laws that cannot be confirmed or refuted by the methods predominant in the natural sciences. They exist independent of the particular conditions of time and place, and the social scientist comes to know them through pure deductive reasoning.

It was their adherence to a causal-realist method that protected Misesian economists from being sidetracked by the issues that have beset mainstream economists since they came to rely on the method of abstract modeling.

Misesian Praxeology versus Mainstream Modeling

Regardless of their different approaches in doing so, economists of goodwill aim to understand the facts of reality brought about by human action. Both the Misesian approach and the mainstream approach strive to establish a connection between theory—that is,

the conceptual structure of cause and effect—and the facts of reality brought about by their underlying causes.

The Misesian approach starts with the universal, realistic facts of human persons from which the logic of human action can be deduced. For example, in striving to attain an end by acting with a combination of means, a human person makes choices based on his judgment as to the value of the end and the value of means that will be realized over the duration of his action. As finite, temporal beings, human persons face genuine uncertainty concerning the future realization of the anticipated valuations they make when choosing to begin a course of action. From these facts and others, discovered by reflection, praxeology deduces the most general principles of human action, which constitute the foundation for analyzing all human action. The logic of the personal economy, then, provides realistic, conceptual understanding of all human action. This conclusion implies that not only consumers but also producers and entrepreneurs act within the conditions facing all human persons, including using human judgments in making choices concerning their actions.

In moving from the logic of personal action to the logic of social interaction, praxeology inserts into economic theory the realistic empirical fact of the heterogeneity among (1) human persons; (2) natural resources, including land sites; and (3) capital goods. The logic of social economy follows deductively from the integration of personal economies.

In understanding the contingent, concrete facts of reality brought about by human action, the Misesian approach is thymology (Mises 1957, 264–84). Thymology is a harmonization of praxeological understanding (i.e., the universal logic of action) and thymological understanding (i.e., the specific conditions, preferences, and choices of persons). The former provides the list of causal factors operating to bring about the empirical result. The latter provides the relevance of each causal factor. Assessing the relevance of each causal factor requires the economist to exercise human judgment. Such assessments can appeal neither to the logic of action nor to statistical estimation to establish the quantitative magnitude each causal factor contributes to the empirical effect. There are no fixed quantitative relationships between the empirical magnitude of a cause and the empirical magnitude of its contribution to the effect because the effect is the product

of human action, which in turn is the product of human choice, which is in turn the product of the human judgments made by the persons who acted. There is no quantitatively constant relationship fixed in the mind of a human person between changes in the empirical magnitude of a cause external to his mind and its contribution to changes in the empirical magnitude of the effect that follows from his action.

In contrast, mainstream economists employ a modeling approach. In the name of science, reliance on human judgment is to be expunged from economic analysis. At the conceptual level of understanding, this means formulating theory mathematically (i.e., constructing a model) to avoid the ambiguities of verbal language that arise from the necessity of human interpretation of the meaning of language. It also entails stipulating economic agents instead of human persons as the fountainhead of behavior that generates the results of the model. At the empirical level of prediction, this means tailoring the model to best fit the data. For this goal to be accomplished, statistical techniques supplant the human judgments of economists in assessing the relevance of causal factors in generating the facts, and mathematical tractability limits the range of causal factors that can be included in a model.

In both the Misesian and mainstream approaches, progress in discovering truth incorporates feedback between theory and facts. In the Misesian approach, the stronger line runs from praxeology to thymology, while in the mainstream approach, the stronger line generally runs from facts to theory—in other words, the theory is more malleable than in the Misesian approach.

The Misesian approach builds facts into the analysis at the most fundamental level. Reflectively discovered facts about the human person (e.g., his finitude and temporality) form the foundation of the logic of personal action. Empirically discovered facts (e.g., the heterogeneity of persons with respect to their preferences and labor services) are inserted to build the logic of social interaction. Acceptance of these facts is what makes Misesian theory less malleable than that of the mainstream. Specific facts of contingent, concrete actions enter the analysis at the level of thymology. While such facts are understood within the praxeological framework, they can influence the development of theory (Salerno 2012).

The mainstream approach inserts facts into the analysis at the point the economist thinks most useful in generating harmony between the theory and the facts. Early Keynesian macroeconomic models, for example, sought to increase such harmony by adding more and more equations to their models in search of a better econometric fit with the facts. Early new classical models, in contrast, sought to increase such harmony by adopting the conceptual stipulations of Walrasian general equilibrium, which entailed redefining what it meant for a model to better fit the facts.

Progress or Regress: Macroeconomic Modeling

The rise of the method of constructing abstract models and assessing their correspondence with reality by the accuracy of empirically testable predictions drawn from them was invigorated by the Keynesian Revolution. J. R. Hicks (1937) gave his first formulation of what would become his IS-LM model of the economy as early as 1937. Two years later, Jan Tinbergen (1939) published *Statistical Testing of Business Cycle Theories*. As the testing of Keynesian macroeconomic models proceeded apace, mainstream economists began to grapple with their disconnect from microeconomic models (Klein 1948).

The Rise and Fall of Neoclassical Synthesis Models

Between the publication of Mises's *Epistemological Problems of Economics* in 1933 and *Human Action* in 1949, mainstream economics was well on its way to engineering the so-called neoclassical synthesis. Announced by Paul Samuelson (1955), the synthesis dealt with several issues that had arisen within the modeling approach (De Vroey and Duarte 2013; Romer 1993): how to reconcile (1) short-run equilibrium with long-run equilibrium, (2) partial equilibrium with general equilibrium, (3) assumptions grounded in the behavior of individual economic agents with assumptions asserted for aggregations, and (4) changes in nominal data with changes in real data, and what stipulations to impose on disaggregated market adjustment processes, elasticities of demand for and supply of the output of representative firms, and information asymmetries that generate aggregate macroeconomic fluctuations.

These vexing issues facing mainstream economists were, however, self-imposed by their adherence to a modeling approach as the only suitable method for a science of economics. To generate models that render empirically testable predictions, one must expunge several fundamental characteristics of real human persons acting in the real world. Yet these characteristics are the very principles that adequately address the issues that continue to bedevil mainstream economists.

Consider Samuelson's (1947) treatment of economic science in his seminal work, *Foundations of Economic Analysis*, which ushered in the rise of mathematical models and statistical inference in economics. In summarizing Samuelson's book, Roger Backhouse (2015, 347) wrote:

> Central to Samuelson's book was the idea that there were common mathematical structures underlying different problems, both within economics and across disciplines. Operational theorems could be obtained by analyzing the properties of the appropriate equilibrium systems. For problems involving aggregates where optimization was not involved, comparative statics results could be derived by assuming that the equilibrium was stable. . . . What mattered to Samuelson was not the analogies with thermodynamics per se, but the mathematical structures on which certain physical, chemical, and biological theorems were based.
>
> *Foundations* reflected the view that there was much more to economics than optimizing behavior. Macroeconomics required different foundations, for aggregate behavior could not be explained as the outcome of optimizations: hence the need for the correspondence principle.

In *Human Action*, Mises rebutted the two fundamental claims of the mathematical economists' project to supplant literary economics. On the use of statistical analysis to derive economic theory, Mises (1998, 348) wrote: "Experience of economic history is always experience of complex phenomena. It can never convey knowledge of the kind the experimenter abstracts from a laboratory experiment. Statistics is a method for the presentation of historical facts concerning prices and other relevant data of human action. It is not economics and cannot produce economic theorems and theories."

On the use of equations to formulate theory, Mises (350) wrote: "It cannot be denied that all investigations concerning the relation

of prices and costs presuppose both the use of money and the market process. But the mathematical economists shut their eyes to this obvious fact. They formulate equations and draw curves which are supposed to describe reality. In fact they describe only a hypothetical and unrealizable state of affairs, in no way similar to the catallactic problems in question."

On the appeal to an analogy of economics to mechanics to justify using mathematics, Mises (351) wrote: "As there exist constant relations between various mechanical elements and as these relations can be ascertained by experiments, it becomes possible to use equations for the solution of definite technological problems. Our modern industrial civilization is mainly an accomplishment of this utilization of the differential equations of physics. No such constant relations exist, however, between economic elements."

On the unbridgeable gulf between the mathematical approach and the real market process, Mises (353) wrote: "The problems of process analysis, i.e., the only economic problems that matter, defy any mathematical approach. The introduction of time parameters into the equations is no solution. It does not even indicate the essential shortcomings of the mathematical method. . . . The main deficiency of mathematical economics is not the fact that it ignores the temporal sequence, but that it ignores the operation of the market process."

Mainstream economists had no interest in addressing these fundamental issues. Because they considered their modeling approach the only scientific manner of conducting economic analysis, they diverted their energies instead to issues that arose within their modeling framework.

The conceptual disconnect between macroeconomic models and microeconomic models fostered attempts to (1) construct microfoundations for macroeconomic models, (2) bridge the gap between short-run disequilibrium Keynesian models and long-run equilibrium classical models, and (3) integrate dynamic analysis with its static equilibrium constructs. Success proved elusive. The models constructed were not even able to generate an explanation of involuntary unemployment except by assuming wage rigidity, the very cause that Keynes explicitly rejected. The neoclassical synthesis appears in retrospect to be merely an uneasy compromise between Keynesian and classical approaches.

In contrast, the Mengerian line of economics had solved these problems. The capital structure developed by Eugen von Böhm-Bawerk

(1959) bridged the gap between microeconomics and macroeconomics. The capital structure demonstrates the way the market economy in its entirety is constituted by entrepreneurially organized, individual production processes sequentially from the extraction of natural resources, which are used to produce higher-stage capital goods, which are used to produce middle-stage capital goods, which are used to produce lower-stage capital goods, which are used to produce consumer goods. This conception also renders a microeconomic foundation for aggregating production processes useful for macroeconomic analysis. Another development crucial to grounding macroeconomics upon microeconomics was Mises's (1953) integration of money into marginal utility theory in *The Theory of Money and Credit*, originally published in German in 1912. From the fact that in a market economy preferences persons have for goods are expressed for and against money, Mises developed his theory of economic calculation, which, in turn, was the basis for his theory of the dynamics of the market economy. In this theory, Mises demonstrated the relationship between the emergence of money prices, which clear markets at each moment, and decisions about production, trade, and consumption based upon anticipations persons form about the future configuration of prices as they relate to the attainment of their ends from their chosen actions. This ongoing process of persons striving to economize their actions drives the process of the market through time. The dynamic of the market, Mises argued, would culminate in a long-run equilibrium condition, what Mises called the "final state of rest," if not for the fact that conditions of human action during the process continually change the configuration of the final state of rest. This general theory of the market economy, in turn, became the foundation upon which Mises (1998) built both his business cycle theory and theory of economic growth.

Efforts to address these problems by mainstream economists working both in theory and in application continued to develop the neoclassical synthesis project. Two notable examples are *Money, Interest, and Prices* by Don Patinkin (1956) and *Economic Fluctuations in the United States, 1921–1941* by Lawrence Klein (1950). Patinkin put together a model employing Keynesian disequilibrium for explaining short-run movements in the economy and long-run, Walrasian equilibrium as the pivot point for short-run fluctuations. Klein constructed a model

integrating Walrasian microeconomic theory with Keynesian aggregates to organize data.

Despite ongoing efforts to develop neoclassical synthesis models, criticisms of this approach began to appear as early as the 1960s. Notably, Milton Friedman (1968) argued, contrary to Keynesians who asserted a stable Phillips curve, that there was no long-run trade-off between inflation and unemployment. Friedman came to this conclusion by introducing asymmetric expectations about the impact of inflation: entrepreneurs were assumed to have accurate and rapidly adapting inflationary expectations, and workers inaccurate and slowly adapting inflationary expectations. Consequently, monetary policy changes have effects on real production and employment in the short run. As worker expectations catch up, however, the stimulus to real production and employment wanes. Government fiscal and monetary policy aiming to manage output and employment is, therefore, doomed to fail. Attempts to do so in the short run will merely exacerbate economic volatility.

In the ensuing debate over the best way to model expectations, Thomas Sargent and Neil Wallace (1975) argued that the Phillips curve is vertical in both the short run and the long run as long as agents have rational expectations about the impact of monetary policy on prices. Being grounded on rational expectations, new classical models (discussed below) tended to model money as neutral to production in the economy.

In contrast, Mises's praxeology accepts the realistic position that each person must use his judgment to formulate expectations about the future because the future is genuinely uncertain to human persons. In addition to the fact that persons vary in their acumen in anticipating the future, changes in the money relation are necessarily nonneutral to real production regardless of the time frame considered. Moreover, money's nonneutrality is integrated into individual buying and selling of goods for and against money because the subjective value of money and goods in a person's preference rank are based on his expectations about the aid acquiring or disposing of them will provide in the attainment of his ends. In other words, the money relation is integrated into the microeconomics of the market economy. Money is neither a separate consideration graphed onto the barter-price general

equilibrium of the real economy nor an arbitrary identification of a good to be a numeraire for the real economy.

Another challenge to the neoclassical synthesis came from Axel Leijonhufvud (1968) in his book *On Keynesian Economics and the Economics of Keynes*. He argued that the divide between Keynes's economics and that of Léon Walras could not be bridged: Keynes held that the market economy is irredeemably inefficient because information and signaling problems render complete coordination among people impossible. There can be no Walrasian general equilibrium state even in the abstract.

Perhaps more important in the decline of neoclassical synthesis modeling than these theoretical challenges was its failure to predict the inflationary recessions of the 1970s. Coupled with both its inability to ground models adequately in agent behavior and the unwieldy system of equations which had seen models growing to contain hundreds of equations, its catastrophic predictive failure sealed its fate.

The Rise and Fall of Rational Expectations Models

The neoclassical synthesis dissolved in the wake of acceptance by mainstream economists of the rational expectations model of economic agents advanced by Robert Lucas and Thomas Sargent (1979). They argued for the superiority of a new classical model which incorporated rational expectations as a microeconomic foundation. Its key features were that (1) agents are rational, including adapting to policy changes; (2) markets clear; and (3) unanticipated shocks are the main cause of business cycles. The new classical approach demonstrated that a Walrasian general equilibrium model can encompass the fluctuations modeled by the Keynesian short-run wing of the neoclassical synthesis approach. Since nothing was lost by cutting off the Keynesian wing, the neoclassical synthesis was abandoned.

Mainstream economists accepted the rational expectations stipulations of economic agents as the microeconomic foundation of macroeconomic models (De Grauwe 2010). Doing so put them on the road to an internally consistent framework instead of the tenuous compromise of the neoclassical synthesis. New classical theory reconciled Keynesian disturbances and economic growth by denying the former altogether and reducing all variations in real production to changes in the underlying rate of growth. Dynamic stochastic general

equilibrium (DSGE) models were the result. They are dynamic in that agents are forward looking, stochastic in incorporating shocks, general in including the entire economy, and equilibrium in stipulating constraints and objectives of agents. Samuelson recognized the eclipse of Keynesian insights in the new classical models. He wrote that "the new classical economics of rational expectations is a return with a vengeance to the pre-Keynesian verities" (Samuelson 1983, 212).

In addition to fulfilling the desire of macroeconomists to ground their framework in microeconomics, Lucas offered a devastating critique of econometrics, which was the major method of linking theory with facts in the neoclassical synthesis models. Lucas demonstrated that estimates generated by models are useless for policy purposes, since the optimizing agents of the model adapt to policy changes (De Vroey 2016). Because the parameters of the model change during the time over which the data emerges, the model cannot be used to make predictions in the face of policy initiatives.

As noted above, Mises went further in arguing that not just policy impositions but changes in any external condition induce real persons to adapt, and therefore the parameters of the model change even if there are no policy initiatives introduced. Since external conditions continually change, Mises concluded that there are no constants in the data of human action, only variables. Being inside the bubble of the modeling method, mainstream economists could ignore Mises's critique. They had no such luxury with the Lucas critique, as he lived with them inside their bubble.

In addition to the two strictures that agents are rational and markets clear, Lucas insisted on a Walrasian notion of general equilibrium. This condition entailed interactions among all markets that were fully adjusted to all gains available to the agents of the model. Moreover, the agents not only acted according to microeconomic choice-theoretic stipulations but were forward looking in the face of probabilities concerning future states, including shocks to the economy. Combining these two elements, equilibrium in the model means individually optimal intertemporal consumption allocation coordinated in advance by the assumption of an auctioneer who ensures that all markets clear before any trades are made.

Finally, Lucas claimed that theory—that is, the conceptual structure related to cause and effect—pertains only to fictitious models

and not to reality. This claim meant that theory cannot be the locus of realistic features of the economic framework, because theory is strongly insulated from the facts of the world to be explained. Even so, Lucas maintained that the goal of economic analysis is to establish a correspondence between theory and facts. He thought this goal could be accomplished by constructing a fully described artificial economy which mimics the time series of actual economies. Such a procedure reduces economic analysis to prediction. Understanding the cause-effect structure, which generates economic data, recedes into the background.

Mises had dealt with these issues in his realistic framework. Markets always clear at each moment given the future realization of the ends that persons anticipate attaining from their actions. Because they face genuine uncertainty of the future, persons act using their personal judgments regarding the likelihood of the outcomes they imagine can occur from various courses of action they contemplate taking. Success in attaining ends increases the wealth and expands the scope of action of a person with superior entrepreneurial acumen. Failure does the opposite. Given real human persons, a market economy brings about a fully adjusted, integrated general system of economizing resource use as determined by the preferences of persons acting in the economy. The correspondence between praxeological theory and historical facts in thymology provides both an explanation of the cause-effect structure that brought about the facts of the past and prediction suitable for decision-making into the future.

Despite Samuelson's lament that new classical models had returned economics to its pre-Keynesian formulations, objections quickly arose to the new classical project. "Old" Keynesians such as James Tobin, Robert Solow, and Arthur Okun continued to assert the "realism" of disequilibrium—that is, the lack of coordination among market participants, the failure of labor markets to clear, and the existence of involuntary unemployment. Much of their debate with new classical economists, however, proved to be merely talking past each other.

The early "New" Keynesians, however, made progress in coming to terms with new classical insights while retaining Keynesian views. While accepting the rationality of agents, they otherwise retained the neoclassical synthesis positions of Keynesian short-run disequilibrium and monetary and fiscal policy efficacy. They argued for an IS-LM model augmented by imperfectly competitive markets and price or

wage rigidities and, therefore, the nonneutrality of money. Their models imposed "realistic" stipulations, such as implicit contracting, efficiency wages, staggered wage setting, and menu costs.

Lucas, for his part, admitted the existence of both voluntary and involuntary unemployment in the real world, while denying the latter in theory. He insisted that the only foundation for progress in economic science was models built on equilibrium in the sense that he understood it. Moreover, Lucas admitted that such models could not account for episodes like the Great Depression, because they are limited to accurately mimicking time series during periods of moderate variation. This inability proved to be their undoing. Like the neoclassical synthesis models during the 1970s that failed to predict during stagflation, Lucas-inspired—that is, real business cycle (RBC)—models failed to mimic time series of real data during the Great Recession.

During the 1980s, Finn Kydland and Edward Prescott developed RBC models which came to dominate macroeconomics by the end of the decade (De Vroey 2016, 260–81). On the new classical foundation, they imposed a policymaker who acted to maximize a social welfare function by choosing policy alternatives sequentially across time. The agents of the model, then, reacted to each policy initiative based on their assessment of its credibility in being carried out. Credibility was crucial, since the policymaker may reoptimize with a different policy initiative at a later date after agents have adapted to the earlier policy.

One reason for the popularity of the RBC approach was its reintroduction of policy into models. The fact that this approach has led mainstream economists to come to think of policy analysis as an art and not a science does not seem to have impaired its widespread adoption. Another factor in the rise of RBC modeling was Prescott's work providing a "quantitative" dynamic general equilibrium, which Lucas's work had not done.

Two key innovations were introduced by RBC modeling. First, Kydland and Prescott grounded fluctuations of economic activity within a model of economic growth. Prescott employed a Solow growth model by adding new classical microfoundations to it. He expunged monetary shocks from Lucas's reliance on both monetary and technological shocks. Prescott then subdivided the trend impact of technological change from its stochastic impact. This innovation was made possible by Solow's own work, which identified total factor

productivity as encapsulating technological change which shifts the aggregate production function in distinction from movement along a given aggregate production function. In the real world, however, technological shocks cannot be separated by direct observation from the effects of other causes of changes in production, such as movements in demand. Solow argued that technological improvement could be indirectly estimated by subtracting the weighted rates of capital and labor inputs, as estimated by their marginal productivity, from the rate of growth of output. Prescott then decomposed this Solow residual into the trend of output growth, estimated by the weighted average of past, current, and future observations and the stochastic element as deviations from the trend. The latter was the model's conception of economic fluctuations.

Second, RBC models employ computer computations based on calibration instead of econometric estimation to test the efficacy of a model. Calibration has the goal of coming up with a model that generates a time series that tracks the time series of real data. In contrast to Keynesian modeling, RBC modeling substitutes a general equilibrium configuration for a system of equations; computer simulations for econometric testing; and calibration for fit with the data as a method of adjusting the model. What matters for RBC models is the simulation results of the model, not its empirical correlation with real data.

A calibration method only makes sense if the theory is well established. RBC authors chose the neoclassical growth model as "established theory." In their view, this theory was so well settled that they could focus on the next step of deriving implications from it to formulate their models. Because he considered the theory settled, Prescott held that any mismatch between theory and the facts requires better measurement of economic variables, not a change in theory.

The similarity of the dominance of theory over facts in RBC models to the dominance of theory over facts in Mises's thymology is superficial. Praxeology is founded on realistic characteristics of human action. The constraints that the logic of action places on facts, therefore, are consistent with the veracity of realistic characteristics of human action. As a consequence, thymology can render genuine understanding of reality. The theory of RBC models is founded on unrealistic assertions about economic agents and the adaptation process they engage in when responding to unfolding circumstances.

Manipulating facts into consistency with a model based on known-to-be-unrealistic assertions risks leading economic analysis further away from understanding reality.

A final reason for the popularity of RBC models is that they rely on Lucas's analogy principle in the method of economics (De Vroey 2016). RBC models rest on the assumption that the Crusoe economy of the model, in which Crusoe optimally organizes his economic activity, is analogous to that of a competitive market economy. The model of a market economy is a set of Crusoes, each isolated on his own island. The Crusoes are identical and make rational choices through time. They would all come to the same actions except for "weather" shocks which generate a stochastic response as well as a trend response. Since each island economy is structurally the same as the others, the model only needs to incorporate one of them. In short, a modern, real-world market economy is modeled as a one-person, self-sufficient island economy.

Mises's praxeology demonstrates that a market economy economizes resource use in a social economy just as Crusoe does so in his personal economy. However, Mises (1998, 328–32) famously rejected the claim that the former can be shown by analogy to the latter. A market economy integrates the personal economies of each of its members in a manner that economizes for each person and for society at large. By demonstrating their preferences for consumer goods by purchasing them with money, consumers generate monetary revenue for entrepreneurs who have organized their production to earn such revenue. In turn, entrepreneurs demonstrate their preference for producer goods by purchasing the services producer goods render with money. The existence of money prices for outputs and inputs directs entrepreneurs to produce goods that are valuable enough to generate revenue above costs and to avoid producing goods that suffer monetary losses. Such economic calculation is necessary for coordinating the use of producer goods across the division of labor and throughout the capital structure of the economy in a manner that economizes for society at large.

The Rise of New Keynesian and the Fall of DSGE Models

By adding theoretical stipulations to new classical models, RBC models provoked opposing reactions. One was to jettison theory altogether and merely use statistical presentations of the data itself to

predict. The result has been vector autoregressive (VAR) models. But the lure of explaining as well as predicting has been strong enough that even such models have given into stipulations, in so-called structural VAR models, to broaden their scope sufficiently to include a conceptual structure of cause and effect. The other reaction was to drive Keynesian stipulations into RBC models behind the wedge inserted by Kydland and Prescott. The result has been New Keynesian DSGE models (De Vroey 2016, 307–35).

These models attempt to overcome perceived deficiencies of their RBC predecessors (Galí 2018). Limitations of RBC models include the following: (1) their use of equilibrium rules precludes explaining dramatic episodes of business cycles; (2) they explain neither the underlying causes of business cycles nor the specific features of each cycle; (3) their reliance on Solow growth theory because it is "established" is shortsighted, since such theories have been abandoned before; (4) they omit money; and (5) they conflate economic growth and business cycles.

New Keynesian DSGE modeling advances two innovations: (1) replacing perfect competition and flexible prices with monopolistic competition and rigid prices and (2) returning the monetary side of the economy. Sticky prices come from the laundry list of labor market imperfections asserted by Keynesians, such as Calvo pricing and menu costs (mentioned above). The nonneutrality of money comes from asserting an unpredictable effect of changes in the money relation on real production.

New Keynesian DSGE models incorporate these innovations by (1) stipulating optimizing conditions for a representative agent, firms, and the monetary authority and (2) inserting these conditions into the aggregate demand equation, a new Phillips curve equation, and a modified Taylor rule equation. The resulting model, therefore, has a system of equations that is branded as a dynamic version of IS-LM. The model then generates both a trend in economic growth and deviations from trend.

Adoption of New Keynesian DSGE models opened the channel of influence from facts to theory that had been closed under RBC modeling. The Taylor rule, for example, was developed from an empirical regularity into a theory and then into the policy trade-off between the variability of output and the variability of inflation. These connections

then led to a shift toward interest rate targeting in monetary policy and the view that monetary policy is more important than fiscal policy because erratic monetary policy accentuates cycles.

New Keynesian DSGE modeling seems to have brought together the method approach of RBC proponents with causal elements favored by Keynesian advocates. Its deficiencies were exposed when it failed to accurately predict during the Great Recession. It has been criticized for being a closed economy, lacking heterogeneity, and having room for neither unemployment nor financial volatility.

The Rise of Agent-Based Models

In the wake of predictive failures of New Keynesian DSGE modeling, mainstream economists have been considering agent-based models as a superior alternative (Richiardi 2017). In the wake of Leijonhufvud's endorsement of such models, they have developed the following distinguishing features: (1) stipulating more expansive characteristics and behavioral rules for agents, (2) supplanting the representative agent with heterogeneous agents, and (3) accepting agents that end up in disequilibrium. Agent-based models replace rational expectations and a representative agent with agents heterogeneous in their knowledge and computational skill. They are stipulated to learn over time with varying success. In agent-based models, there is no institutional condition, such as the auctioneer, to ensure equilibrium at each moment in time. Agents interact with each other and adapt to the facts brought about by their interactions. Agents make decisions about their activity on the basis of simple heuristics drawn from psychological studies of human persons. Heuristics themselves are subject to learning and adaptation as circumstances change. In an agent-based model, equilibrium becomes an aggregate condition only achieved in statistical terms. Regardless of the activity of individual agents, the system is otherwise out of equilibrium.

Agent-based models relate to the historical facts of human action using the technique of computer simulations. Models with varying states, parameters, actions, and decision rules for agents can be tested for their convergence to equilibrium state using computer simulations. Models that converge can then be tested for their fit to empirical data.

As discussed above, Misesian praxeology and thymology address each of the issues identified by agent-based models on a realistic

foundation and therefore render superior understanding and prediction of historical facts.

Agent-based modeling in macroeconomics shatters the generality of a model enforced under the logic of rational expectations. The result threatens to mimic that of the introduction of psychological assumptions into microeconomics by behavioral economists. Tailoring models to fit various datasets without giving them a uniform, realistic anchor threatens to reduce economics to a sophisticated version of data analysis. Mises's approach answers this challenge. Praxeology anchors all economic analysis in economic theory—that is, the realistic logic of action. Thymology incorporates the concrete facts of each historical episode of human actions to tailor the economic historical explanation within the framework of the logic of action.

Conclusion

The Misesian approach in economics has given us a genuine science of human action. Praxeology (i.e., the logic of action) is founded on realistic characteristics of human persons which are discovered by reflection on the meaning of human action. Even though human action entails judgments made by persons for which there is no scientific analysis, Misesian economists have developed praxeology to build a universal, conceptual structure of cause and effect for any personal economy and any social economy. They continue to expand the logic of action to incorporate the creative development of human action as it has unfolded in human history. By blending praxeological understanding with their human judgments concerning the relevance of various causes bringing about historical facts, Misesian economists have explained historical facts and predicted the configuration of facts yet to emerge. They have worked to continually improve their thymological understanding of past events and prediction of future events.

Moreover, the Misesian approach has answered every problem that has bedeviled mainstream economists working within their modeling approach. Despite its achievements, mainstream economists have resisted the Misesian approach in the vain attempt to impose their view of science on economics. For them, science must expunge, as far as possible, all human judgment. In their models they strive to accomplish this goal by supplanting (1) human persons with economic

agents, (2) verbal logic with mathematical logic, and (3) human judgments of relevance with statistical analysis. Released from building on a realistic foundation, mainstream modeling relies on prediction to distinguish superior from inferior models. As a result, every advance in macroeconomic modeling has been followed by a predictive failure which has ignited further debate followed by a reconfiguration of the model, ad infinitum. While this groping process may result in a tendency to move toward the truth in the natural sciences, regrettably, it cannot do so in economics. As Mises (1998, 39) wrote:

> The real thing which is the subject matter of praxeology, human action, stems from the same source as human reasoning. Action and reason are congeneric and homogeneous; they may even be called two different aspects of the same thing. That reason has the power to make clear through pure ratiocination the essential features of action is a consequence of the fact that action is an offshoot of reason. The theorems attained by correct praxeological reasoning are not only perfectly certain and incontestable, like the correct mathematical theorems. They refer, moreover, with the full rigidity of their apodictic certainty and incontestability to the reality of action as it appears in life and history. Praxeology conveys exact and precise knowledge of real things.

Because of the aimless meandering of the trajectory of the conclusions generated by modeling techniques, mainstream economics always has been ripe for being reduced to the handmaiden of politics (Bernstein 2001). This impulse has worsened as the modeling method of mainstream economics has fractured into specialized models tailored for one case after another. (Rubenstein 2006).

Only the firm foundation of praxeology can serve as the solid rock upon which economics can be built into a structure of permanent truth and thereby fulfill the aspiration for it held by Mises. As Mises (1998, 881) wrote at the close of *Human Action*:

> The body of economic knowledge is an essential element in the structure of human civilization; it is the foundation upon which modern industrialism and all the moral, intellectual, technological, and therapeutical achievements of the last centuries have been built. It rests with men whether they will make the proper use of the rich treasure with which this knowledge provides them or

whether they will leave it unused. But if they fail to take the best advantage of it and disregard its teachings and warnings, they will not annul economics; they will stamp out society and the human race.

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5

Human Action: Foundations for the Modern Austrian School

Randall G. Holcombe

Human Action marks a turning point in the Austrian School and marks the transition from the old Austrian School to the modern Austrian School. There is a good chance that had Ludwig von Mises not published *Human Action* and taught his seminar at New York University (NYU) after World War II, the Austrian School would not have survived as a distinct school of thought. *Human Action* laid out the fundamental principles that differentiate the Austrian School from the post–World War II mainstream, and Mises's NYU seminar produced the scholars that allowed the school to advance in the second half of the twentieth century.

To appreciate the significance of Mises's *Human Action* requires some background on the development of economic analysis through the twentieth century, and on the growing division between the Austrian School and the mainstream. The apparent differences between the foundations of the Austrian School and the mainstream were minor in the early twentieth century; those differences became increasingly obvious in the second half of the twentieth century, not because the Austrian School had changed but because of significant changes in mainstream economic analysis. Israel Kirzner (1988, 2) notes that early twentieth-century economists had "a superficial, shared understanding of markets that submerged important distinctions that would

become apparent only much later." *Human Action* was instrumental in illustrating those differences.

A Brief History of the Old Austrian School

Much has been written about the evolution of the Austrian School, so there is no need to cover all the details here.[1] Up through the 1930s, as Kirzner (1988) explains, there was not a sharp distinction between the Austrian School—based on the ideas of Carl Menger (1950), first published in 1871—and the mainstream of economics. Joseph Salerno (1999) offers a good background on Menger's work and lasting influence. Mises and Friedrich von Hayek were the school's most visible members in the first half of the twentieth century, but many others, including Joseph Schumpeter, Fritz Machlup, Frank A. Fetter, Knut Wicksell, and Philip Wicksteed, promoted ideas and used methods very consistent with those of Mises and Hayek. The Austrian School became more visible as an alternative to the mainstream in the 1930s for two reasons, neither of which rested heavily on methodological differences.

First, the Austrian business cycle theory, put forward in 1912 by Mises (1953) and extended by Hayek (1931, 1933), was the most prominent alternative to Keynesian macroeconomics, leading to what some, even in the twenty-first century, refer to as the Hayek-Keynes debate. But note that Hayek had published much of his work on the business cycle prior to Keynes's (1936) publication of *The General Theory*. Hayek's ideas were built on a methodological foundation very consistent with mainstream thought at the time, and it was Keynes's ideas that made a radical departure from the mainstream.

The most notable departure in Keynes's work and the Keynesian macroeconomics that followed it was that Keynes's theory was built on economic aggregates—consumption, investment, government spending—that were not clearly connected to individual behavior. This lack of microeconomic foundations in Keynesian macroeconomics was well recognized within the mainstream, as Phelps et al. (1970) explains. The point is that it was Keynes who deviated from what was

[1] Holcombe (2020) gives an overview of the school's history.

recognized as mainstream economic methodology. The followers of Keynes would not disagree.

The second, and perhaps more significant, factor that differentiated the Austrian School from the mainstream was the socialist calculation debate. The debate was initiated in 1922 by Mises (1981), who challenged the idea that a centrally planned economy could rationally allocate resources. The Austrian School's increasingly distinct identity at the middle of the twentieth century was based on Mises's claim to the contrary, which was supported by Hayek and other Austrians. Mainstream economists, to the extent that they engaged in this debate, explained the benefits of central economic planning, and claimed that Mises was wrong.[2]

Those two areas of inquiry more clearly distinguished the Austrian School from the mainstream in the 1930s but nearly led to its demise in the 1940s. Keynesian macroeconomics had displaced Austrian business cycle theory and solidly established itself as mainstream macroeconomics. Meanwhile, most of the economics profession sided against the Austrian School in the socialist calculation debate. As the mainstream viewed it, the mid-twentieth-century division between the Austrian School and the mainstream was not based primarily on differences in their theoretical foundations, but on those policy-related conclusions.

In response to Mises's claim that rational economic calculation is not possible without markets and market prices, critics offered theories to explain why Mises was wrong (Lange 1936, 1937; Lange and Taylor 1938; Lerner 1944). At the same time, as the Soviet Union grew in power, critics pointed to Soviet economic growth as evidence that central economic planning was working, providing concrete evidence that Mises's claim that it could not work was wrong. The Austrian School had been pushed well outside the mainstream on this issue.

While the socialist calculation debate was, at least, a debate, the Austrian business cycle theory was not even a part of the discussion as Keynesian macroeconomics completely displaced all other theories of business fluctuations. By the 1940s, the Austrian School, primarily

[2] A good example is Samuelson (1973, 883). Published in the year Mises died, Paul Samuelson's text says that while per capita income in the Soviet Union is half that of the United States, he forecasts that because of its faster economic growth rate due to its centrally planned economy, the Soviet Union should catch up to the United States in per capita income, perhaps as soon as 1990 and almost surely by 2010.

identified with the work of Mises and Hayek, was left behind as economic theory developed. Those who were identified as associated with the Austrian School passed away or drifted toward the mainstream. Hayek (1944, 1952, 1960), perhaps the most visible Austrian School economist in the 1940s, shifted his research interests in other directions. It is not much of an exaggeration to say that by 1950, Mises was the only remaining active member of the old Austrian School.

Human Action and the Transition to the Modern Austrian School

While there was not a huge gap in methodological foundations between the Austrian School and the mainstream in the first half of the twentieth century, that gap widened after the 1940s because of developments in mainstream economics. The ideas and methodology of the Austrian School remained based on the foundation that had been developed since the time of Adam Smith (1937), as Peter Boettke (2012; chap. 19) explains. In the second half of the twentieth century, it was mainstream economics that departed from the mainline tradition that preceded it.

The trajectory of mainstream economic theory was set by Paul Samuelson's (1947) *Foundations of Economic Analysis*, which stands in contrast to Mises's (1998) *Human Action*, published in 1949. The two books, published within a few years of each other, set the tone for the development of mainstream economic theory and Austrian economic theory.

Both books were similar in intent. They were designed as treatises, by which I mean books that begin with first principles and develop the foundations for the entire discipline. I deliberately put the word "foundations" in my title because just as Samuelson intended his book to lay the foundations of economic analysis for the future development of the discipline, as his title says, Mises also intended his book to lay the foundations for the discipline. While similar in intent, the two books have very different visions of those foundations.

As stated above, the Austrian School had essentially narrowed to one person, Mises, by the middle of the twentieth century. Mises began teaching his Austrian economics seminar at NYU in 1948. *Human Action* provided the methodological foundations for the seminar, and

Mises's students from that seminar were the beginning of the modern Austrian School. Most prominent among them were Murray Rothbard and Israel Kirzner, who developed a following and led the Austrian School into the twenty-first century.

Looking at the history of the Austrian School, it is not an overstatement to say that the foundations of the modern Austrian School all trace back to *Human Action*. There are other great works written by Austrian School scholars, but by the mid-twentieth century, the Austrian School—except for Mises—had vanished as Samuelson defined the foundations of economic analysis in mathematical terms and Keynesian economics provided the foundations for macroeconomics.[3]

Mises was the guardian and promoter of the Austrian School's ideas through his NYU seminar, and the students in that seminar went on to promote the ideas Mises was teaching. Rothbard and Kirzner both acknowledged Mises's influence on their thinking, declared themselves to be students of Mises, and said that their work was building on and extending the ideas found in *Human Action*. Mises had other students who promoted his work, but Rothbard and Kirzner were the most influential. They, in turn, influenced a new generation of Austrian School scholars. After dwindling down to almost nothing at midcentury, the Austrian School's influence grew throughout the second half of the twentieth century.

My Introduction to the Austrian School

To help illustrate the influence of Mises, and of *Human Action*, on the resurgence of the Austrian School in the second half of the twentieth century, let me draw on my own experience as a student and, later, professor. I majored in economics as an undergraduate at the University of Florida, enrolled from 1968 to 1972, and received a very mainstream economic education, with one prominent exception I will mention momentarily. I learned neoclassical microeconomic theory from C. E. Ferguson (1969), the most neoclassical of neoclassical economists. My macroeconomics was 100 percent Keynesian—IS-LM, multipliers—all aggregate analysis with no individual behavior, no

[3] Keynesian macroeconomics deviated significantly from Keynes (1936) and was largely based on Hicks (1937), who interpreted Keynes in a static equilibrium framework.

human action. This was the standard for a university curriculum in economics at the time. I had no idea that there was an Austrian School of economics. Although I was assigned one short article by Hayek (1961), I was unaware of his other work, and the Austrian School was never discussed in any of my classes.

In my junior year I took a special topics course on public choice that used Buchanan and Tullock (1962) as one of its texts. Their approach to the analysis of government decision-making was very attractive—a good alternative to that offered by neoclassical economics. The mainstream approach was to identify market failures—reasons why the market might not allocate resources perfectly—and mathematically describe the conditions for optimal resource allocation. The government should then implement those optimal conditions.[4] What Buchanan and Tullock explained was that those in government would not have sufficient information to implement those optimality conditions, and even if they did, government decision-makers would not have the incentive to do so.[5]

Interested in studying with Buchanan and Tullock, I began graduate school in 1972 at Virginia Tech, where both were on the faculty. In an era when many mainstream economists viewed government interventions in the economy very favorably, Buchanan and Tullock both had reputations for favoring free markets and freedom more generally. They were classical liberals, and the brightest students who were attracted to the Virginia Tech graduate program were those who had similar ideas.

While I had never heard of the Austrian School prior to arriving at graduate school, many of my classmates were very familiar with the school and had read its major works. Although many faculty members were sympathetic to the school's ideas, including both Buchanan and Tullock, my real introduction to the Austrian School came from my classmates. As Mises had intended, *Human Action* provided the foundations of Austrian economic analysis. Rothbard's (2004) *Man, Economy, and State* (published in 1962) was intended to fill the same role and was required reading—required not by the faculty, but by

[4] See Bator (1958) for an example of the neoclassical economics to which the Austrian School offered an alternative.

[5] See Buchanan (1975) for a discussion of this point.

my classmates. We were very excited when Israel Kirzner's (1973) *Competition and Entrepreneurship* appeared during our graduate years.

Many Austrian School economists view public choice as an alternative to the Austrian School, but public choice in general and Buchanan (1964, 1969) in particular have a very Austrian approach to economics. As I see it, the Austrian School is a school of thought, and public choice is an area of inquiry, so they are not competing schools of thought at all. One can take an Austrian approach to public choice, just as one can take an Austrian approach to industrial organization, monetary theory, or any other area of inquiry. I say this in response to the possible comment "He's not an Austrian economist; he's a public choice economist." The two are not incompatible.

Richard Wagner, another public choice economist very sympathetic to Austrian ideas, joined the Virginia Tech faculty while I was a student there, and he alerted me to a conference to be held on Austrian economics in June 1974, which I attended. The faculty were Murray Rothbard, Israel Kirzner, and Ludwig Lachmann. Little did I realize at the time that the conference, which was held in South Royalton, Vermont, would be cited as the beginning of a rebirth of the Austrian School.[6] Many of the individuals who led the resurgence of the Austrian School in the last quarter of the twentieth century attended that conference. From Mises came Rothbard and Kirzner, and from Rothbard and Kirzner came a new generation of Austrian School scholars.

In 1982 I was a faculty member at Auburn University when Lew Rockwell founded the Mises Institute there. The faculty in the Auburn economics department were very sympathetic to the Austrian School. Roger Garrison, one of the people I first met at the 1974 South Royalton conference, deserves special mention, and perhaps was responsible for attracting Lew to Auburn. The Institute held seminars and workshops which provided the opportunity both to learn more and to do more Austrian-oriented research.

The preceding discussion has been an attempt to place *Human Action* within the context of its importance to the modern Austrian School, and within the context of the development of economic analysis more generally. My own experience was typical of economic

[6] Vaughn (2001) discusses the significance of that event.

education at the time. The significance of *Human Action* lies in the ideas it develops. A complete analysis of those ideas would require more pages than the original book. What follows is a discussion of some key ideas that have influenced my work and that lend insight into the remarkable economic progress that has occurred since the beginning of the Industrial Revolution.

Acting Man: The Ultimate Foundation

Many contemporary Austrian School scholars have made substantial contributions to the modern Austrian School, but those contributions all trace back to *Human Action*, in that the school advanced through the work of Mises's NYU students, and their students. The ultimate foundation in *Human Action* is Mises's discussion of acting man. Mises (1998, 18) says, "Human action is necessarily always rational. . . . The ultimate end of action is always the satisfaction of some desires of the acting man." This stands in contrast to the neoclassical utility theory that makes assumptions about the way that individuals respond to the choices they face: the neoclassical theory of consumer choice gives no choices to the choosing individuals.

The neoclassical methodology is clearly explained by George Stigler and Gary Becker (1977). Economists assume that individuals have stable utility functions with certain properties, and when choices present themselves, individuals refer to their utility functions to make their choices. In this setting, choice is a reflex. If the same alternatives present themselves, individuals will make the same choices, and economic analysis takes place by examining how individuals respond to changes in relative prices and incomes. This, Friedman (1953) says, allows the theory to develop testable hypotheses. But it also eliminates any real choice from the neoclassical theory of consumer choice.

Mises (1998, 11) says, "Conscious or purposeful behavior is in sharp contrast to the unconscious behavior, i.e., the reflexes and involuntary responses of the body's cells and nerves to stimuli." But neoclassical utility theory, as explained by Stigler and Becker, depicts human action as just that type of reflex. In the same way that a person's heart will involuntarily beat faster if the person accelerates from a walk to a run, people's fixed and unchanging utility functions determine the choices they make. Within that neoclassical framework, behavior

is deterministic. Mises begins with the recognition that people have free will.

Faced with the same circumstances, an individual may choose to do something different today than the individual did yesterday. In an uncertain world, rather than one of static equilibrium, people may take risks that outside observers are unable to understand. Mises (18–19) says, "Since nobody is in a position to substitute his own value judgment for those of the acting individual, it is vain to pass judgment on people's aims and volitions. No man is qualified to declare what would make another man happier or less discontented." Neoclassical utility theory creates a barrier to understanding innovative and entrepreneurial behavior (Holcombe 1989, chap. 9).

Human Action and Entrepreneurship

Mises's theory of human action provides a foundation for understanding entrepreneurship and economic progress, something that has remained beyond the grasp of mainstream growth theory. One reason is that mainstream growth models depict growth as an equilibrium phenomenon, but it is not. A second reason is that growth theory focuses on income growth, but income will grow slowly if at all without the economic progress that brings with it new and improved goods and services.

The phenomenon is better described as progress rather than growth, because it rests on those entrepreneurial innovations that change the nature of the economy. Growth does not occur as an economy produces more of what it has produced before. Motor vehicles displace horse-drawn travel, jet aircraft displace railroads and steamships, and smart phones displace telegraphs. The reason market economies have grown so much since the beginning of the Industrial Revolution is that entrepreneurs have introduced innovations into the economy. That growth could not have occurred without the progress that brought with it new and improved goods.

Mainstream economic theory rests on a foundation of general equilibrium, and the general equilibrium framework requires the assumption that people make their economic choices with reference to stable and "well-behaved" utility functions. Under certain assumptions,

the result is a unique, stable general equilibrium. One of the most remarkable economic phenomena in the history of the world, the sustained economic progress that has occurred since the beginning of the Industrial Revolution, cannot be understood in this framework. This progress is not an equilibrium phenomenon, and the neoclassical framework is inadequate for understanding it. *Human Action* provides a theoretical foundation for understanding economic progress.

Calling a state of general equilibrium the evenly rotating economy, Mises (1998, 249) observes, "Action is to make choices and to cope with an uncertain future. But in the evenly rotating economy there is no choosing and the future is not uncertain as it does not differ from the present known state." This equilibrium approach leaves no room for the entrepreneurial innovation that generates economic growth. The neoclassical equilibrium growth path depicts income growth, not the progress that results from the introduction of new and improved goods into the economy.

Mises (255) says, "Entrepreneur means acting man in regard to the changes occurring in the data of the market." The economy is always changing, and thus, Mises (253) adds, "The outcome of action is always uncertain. Action is always speculation." Mises (11) says human action "is a person's conscious adjustment to the state of the universe that determines his life."

Mises's depiction of human action contrasts sharply with the neoclassical view in which people refer to stable utility functions to determine what actions to take. Mises's depiction of action incorporates the ability of people to be entrepreneurial, to vary their choices in attempts to discover ways of doing things that improve over what has been done in the past (Holcombe 1989, chap. 9). The contrast between Mises's depiction of human action and neoclassical utility maximization lays the foundation for the remainder of *Human Action*, and for much of the follow-up research done by contributors to the Austrian School.

Entrepreneurship and Economic Progress

As mentioned above, the most significant phenomenon in economic history has been the sustained economic progress that has occurred in the few hundred years since the beginning of the Industrial Revolution.

Much of my work in the Austrian tradition has attempted to extend the connection from human action to entrepreneurship that Mises made to understanding economic progress. Mises discusses at length the way that entrepreneurs adjust to ever-changing economic conditions, but without referencing the economic progress that accompanies those changing conditions.

This is true of the Austrian analysis of entrepreneurship more generally. Kirzner (1973) depicts entrepreneurship as the noticing of previously unnoticed profit opportunities, emphasizing the equilibrating effects of entrepreneurship but neglecting the direct causal relationship between entrepreneurship and economic progress. Mises lays the theoretical foundation, further developed by Kirzner (1973), that opens the door to extending his analysis of entrepreneurship to understand the remarkable economic progress the world has seen in the last several centuries.

The Austrian School has not completely neglected the role that entrepreneurship has played in producing progress. Schumpeter (1947) makes a direct connection between entrepreneurship and economic progress, noting the creative destruction that is inherent in a capitalist economy. New and improved goods and services, and more efficient production processes, displace the old. While Kirzner and Schumpeter both emphasized the role of entrepreneurship in an economy, there is an interesting contrast between them. Kirzner emphasized the equilibrating nature of entrepreneurship, while Schumpeter depicted entrepreneurship as disruptive and disequilibrating.

These activities of entrepreneurs are two sides of the same coin (Holcombe 1998, 2007). In both cases, entrepreneurs are seeking profits by looking for ways to combine resources in productive ways that create more value than the cost of the resources used in production. Entrepreneurial activity can disrupt and destabilize an existing market, as Schumpeter described, which opens the opportunity for additional entrepreneurial activity to respond to the disruption and restabilize the economy, as Kirzner described. My work in entrepreneurship starts with reconciling Schumpeter's and Kirzner's analyses of entrepreneurship (Holcombe 1998, 2007).

Schumpeter (1947, 82) observes that "the essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process. . . . Capitalism, then, is by nature a form or method of economic

change and not only never is but never actually can be stationary." Entrepreneurs are constantly introducing innovations into the economy that produce more value for consumers. If some firms are entrepreneurial, all must be, or they will be left behind by those that are. This is the creative destruction Schumpeter described as inherent in capitalism.

Mainstream economics, following Solow (1956), has focused on economic growth, which is measured by aggregate output or income. It depicts output, Q, as a function, f, of capital, K, and labor, L, so $Q = f(K, L)$, notation that will be familiar to all economists. An issue with this formulation is that output could not grow as fast as it has without new and improved goods and services. The Q people consume today is not the same Q that they consumed in the past. Romer (1986) builds on that neoclassical framework to endogenize technological change, but innovation is more than technological advances: it is, as Kirzner (1973) notes, the discovery of previously unnoticed profit opportunities.

The neoclassical equilibrium approach to firm behavior depicts product differentiation as providing the advantage to consumers of a choice of similar but different products. That static view of product differentiation which appears in all standard microeconomic theory textbooks overlooks the most important aspect of product differentiation (Holcombe 2009). Firms do not differentiate their products to make them different; they differentiate their products to make them better. That is how they maintain and increase their customer base. Incremental improvements in products, along with some major innovations, are the engine of economic progress.

This cannot be understood within a model in which economic output is depicted as a homogeneous Q. Mises emphasizes that individuals are always acting within the context of an uncertain future. The continual changes that occur in the economy open profit opportunities. When markets are disrupted, the entrepreneurship described by Kirzner (1973) acts to equilibrate them. But many of those disruptions are the result of the entrepreneurial innovations described by Schumpeter (1947). The entrepreneurial activities of some create entrepreneurial opportunities for others.

One insight that follows from this line of reasoning is that the primary source of current entrepreneurial opportunities is past entrepreneurship. One innovation opens the opportunity for further innovations (Holcombe 2003). The discovery of unexploited profit

opportunities does not use up entrepreneurial opportunities; it creates more. When the microprocessor was developed, it opened the opportunity for entrepreneurs to produce personal computers, which opened the opportunity to develop new operating systems for firms like Apple and Microsoft, which opened the opportunity to develop new navigation devices such as mice, touchpads, and touchscreens, along with the opportunity to create new computer programs. When institutions are designed to allow the market process to work, the entrepreneurship of some opens entrepreneurial opportunities for others (Holcombe 2013, 2021). One consequence is that some economies will be more entrepreneurial than others.

I have focused here on my own work on entrepreneurship to show how Mises's foundations in *Human Action* have inspired me to advance the ideas of the Austrian School. While I am always happy to promote my own work (shouldn't scholars always want to do that?), I am only one of a large and growing number of individuals pursuing economics in the Austrian tradition. The ideas presented in this section provide a brief example of the influence Mises has had, and continues to have, in the modern Austrian School.

Conclusion

The significance of *Human Action* can be seen by comparing it to Samuelson's *Foundations of Economic Analysis*. Both were written in the late 1940s, and both were intended to provide foundations for economic analysis. While the mainstream followed Samuelson, Mises's *Human Action*, coupled with his NYU seminar, kept the Austrian School alive. There are too many differences between the two books to list them all, but one big one, going back to Mises's title, is the way they depict human action.

Mises was one of the greatest proponents of capitalism, and was beyond a doubt the leading critic of central economic planning. *Human Action* is oriented toward showing the advantages of market institutions and the economic problems that arise without them. But no book is going to be the last word on anything, and my thought was that the foundation *Human Action* provides can be built on to better understand economic progress, and to better appreciate the essential role that entrepreneurship plays in generating progress.

The foundations in Mises (1998) open the door to these insights. The foundations in Samuelson (1947) close off that line of inquiry.

I have focused heavily on how *Human Action* has influenced me and laid a foundation for my work. Multiplying that by the thousands of others who have been similarly influenced reveals only a part of the book's influence. Without *Human Action*, there is the real possibility that the Austrian School would not have survived into the twenty-first century.

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6

My Discovery of *Human Action* and of Mises as a Philosopher

Hans-Hermann Hoppe

I started out in my intellectual development as a left-winger. I have told the story repeatedly, in more or less detail. I entered the university in 1968, at the height of the anti–Vietnam War protests and the widespread student rebellions all across the US and Europe. As a typical product of the zeitgeist, then, I was one of those youngsters who were later on, and even now, called out as members of the 1968 generation. We are blamed for the successive leftward turn of Germany (and the West, generally), through a "march through the institutions" recommended by the Italian Commie Antonio Gramsci, that is still continuing to this day—but with some hopeful signs appearing on the horizon that the end of the rope may be near. In any case, my leftism at the time was motivated not so much by egalitarian sentiments as by belief in the greater efficiency of some sort of central economic planning (rather than the "anarchy of markets").

My main field of university study originally was philosophy, and my main teacher at the time was Jürgen Habermas, twenty years older than myself and at that time the young, rising star of the famous Frankfurt School of the so-called critical theory. The other, older big names of the school were Max Horkheimer and Theodor Adorno, both Jewish, who had emigrated to the US during the 1930s and returned to Germany after the war, while young Habermas was a homegrown

Gentile. All of them were at the time assembled and teaching at Goethe University Frankfurt, then, along with the Free University of Berlin, the center of left-wing thought in Germany. Another big name in the Frankfurt School—of the older generation, and with considerable influence at the time—was Herbert Marcuse, who did not return to Germany after the war but remained in the US, yet gave frequent guest appearances in Germany.

I absorbed all or most of their work, and Habermas—who from his early beginnings as an enfant terrible has in the meantime risen to the rank of one of the most famous and highly decorated philosophers not only in Germany, but worldwide, and of the high priest of political correctness, welfare-statism, and US-led political centralization—became my *Doktor-Vater*.

That was in 1974, fifty years ago. At that time I was still a left-winger, but already considerably more moderate, and my dissertation had nothing whatsoever to do with political philosophy. It was a critique of empiricism, in particular that of David Hume, from a rationalist(ic) point of view, if you will, some variation on and of the long-lasting and still-ongoing debate (or monologue) between the largely Anglo-Saxon empiricist philosophical tradition (represented most famously by John Locke and then by Hume) and the continental rationalistic tradition (prominently represented by Gottfried Wilhelm Leibniz and then by Immanuel Kant).

There is not much more to say about this now—except that this study created in me some fundamental intellectual predisposition that would later immediately attract me to Mises's work, as an outstanding example of rationalist thought, in contrast to the logical empiricists gathered in and around the famous "Vienna Circle" in his early life. I will return to this topic a bit more, later on.

Meanwhile, successively and systematically expanding my readings beyond mostly leftist literature, I moved increasingly rightward, conservative, and promarket.

I encountered Milton Friedman, frequently mentioned at the time in German newspapers and magazines as an intellectual big shot in the US and the most famous champion of American capitalism, and became a vaguely defined free-marketeer. But as a philosophical rationalist I also recognized early on the various inconsistencies and logical gaps in Friedman's arguments.

From Friedman I found my way to Friedrich von Hayek (who actually lived and taught in Germany at the time, but was, if I remember correctly, mentioned less frequently, despite having just been awarded a Nobel Prize in 1974). Hayek further strengthened my newfound convictions. Still, I found him even less strict and consistent (or rather more confused) in his political philosophy than Friedman (not so much in his economics, which I was to encounter and read only later on). But on the other hand, Hayek struck me as far more impressive with his wide-ranging, interdisciplinary knowledge than the narrowly specialized Friedman.

And then on to Ludwig von Mises: of course I had heard his name by this time. Interestingly, however, while he was never mentioned in West German economic textbooks, his name figured prominently in Commie East Germany. Because most of my relatives lived in the East (my parents were refugees from there), we went there every year for various visits. For that, you were compelled to exchange a sizable sum of Western marks for Eastern marks, of course at a government-fixed exchange rate. But then, since we always stayed with relatives, you had to find something to buy for your Eastern marks. And there was not much to buy: there were the collected works of Marx and Engels and all the other heroes of socialism; you could get some Russian literary classics in German translation, some records of classical music, and, of course, also some of the current textbooks on political economy used in the East. And there, in one of these textbooks, you could also find some detailed criticisms of Western, so-called bourgeois economics and economists, among them Friedman and Hayek, but in particular also Mises, who was singled out as the most wrongheaded, dangerous, and detestable of them all.

Still, until the late 1970s I had not actually read anything by Mises. This changed only when I began serious work on my habilitation thesis on the methods and methodology of the social sciences. In the course of this, I took a closer look in particular at economics, as a special field within the general area of the social sciences, and there I also came across statements such as the quantity theory of money (first only in its quasi-mechanical version—I would learn of Cantillon effects, etc., only later), according to which an increase in the money supply leads to a reduction in the purchasing power per monetary unit. For me it was obvious that this statement is a logically

true statement which cannot be falsified by any "empirical data," and nevertheless a statement with a clear reference to reality and about real things, and as a philosopher in the rationalist continental tradition I found nothing strange or unfamiliar in the idea of logically true, or "synthetic a priori," propositions.

But wherever I looked in the contemporary literature, whether on the left in Paul Samuelson or on the right in Milton Friedman, the entire guild of economists was, to put it bluntly, in love with the Viennese philosophy of logical positivism, or Popperianism, according to which such apodictically true real statements are impossible or scientifically inadmissible. For them, this statement was instead either a mere tautology, a definition of words made up of other words (i.e., a linguistic convention, without any reference to reality), or a hypothesis in need of empirical verification or to be tested and in principle falsifiable by empirical data.

I was at first dumbfounded by this, but then—I do not remember exactly where—I found a reference in a footnote in one of Hayek's writings to Mises as his own mentor, but as representing a different strand of the Austrian School of economics. And he mentioned in particular Mises's (1998) *Human Action* as the outstanding example of this, in his (Hayek's) view hyperrationalistic, strand that argued for economics (or what he termed "praxeology," a term I had never heard before) as some sort of discipline offering and made up of "aprioristic" propositions.

Now that sounded like exactly what I was looking for. At the time I happened to be spending a semester at the University of Michigan, in Ann Arbor, and the next day, I went to the university library to obtain a copy of the book. Thus, *Human Action* was the very first book of Mises's that I read. I devoured the whole volume in just two or three days, and then immediately ordered my own copy at the local bookstore.

That book was *it*, I thought, and I still think so today (except for some later additions made to it by Murray Rothbard). In my view, it was in a different league than anything offered by Friedman and Hayek, and it turned me into a radical free-marketeer (but not yet into an anarchist). Indeed, it was a double revelation. On the one hand, it was a systematic and comprehensive presentation of all of economics, and on the other hand it was at the same time a confirmation of what I had already come to conclude myself about the nature and the

epistemological status of economic propositions: *It was a comprehensive presentation of economics as a system of propositions that were neither just linguistic conventions nor propositions open to falsification or in need of empirical verification by "data collection"—contrary to all the pronouncements by seemingly everybody else within the economics profession, who claimed such propositions as impossible, or rather scientifically illegitimate.*

At the conclusion of my presentation I will offer a short battery of such propositions to give you a flavor of it all. But before that I want to return very briefly to the subject of philosophical rationalism (versus empiricism) that I have mentioned before: that is, the "Mises as a philosopher" part of the title of my essay.

It was in particular part 1 of *Human Action* that attracted my greatest interest, the very part of the book, as I have been told, that Randians or Randroids are asked not to read or to skip over and which is frequently considered somewhat superfluous, irrelevant, confusing, or even incomprehensible—that is, that very part where Mises writes about the subject of the "ultimate foundations" of knowledge and the "ultimate given."[1]

[1] At this point let me insert some brief, casual, and somewhat personal remarks on Ayn Rand and the Randroids. In my own intellectual development Rand played no role whatsoever. In fact, I would dare to say that Rand was virtually unknown to people of my generation in Germany and throughout Europe. I know of no significant figure at the time who found his way to libertarianism (widely conceived) via Rand. Rather, the typical gateway to libertarianism then was through the "Austrians." This has somewhat changed in the meantime. But as compared to the situation in the US, the influence of Rand on the intellectual scene in Europe has remained rather insignificant to this day.

As to the disdain, dislike, or even hostility of Randians toward part 1 of *Human Action* I will have to speculate a bit. While Mises, as revealed in this part of his treatise, is apparently a Kantian as far as epistemology is concerned, Kant is considered by Randians as a *bête noire*. Yet this Randian verdict is based on some near-complete ignorance of the Kantian philosophy, as epitomized by Rand's official "heir" Leonard Peikoff's book *The Ominous Parallels*. For a devastating critique of this work, see Gordon (2005). Another reason for the Randian disdain of part 1 of Mises's treatise is likely his emphasis on "subjectivism" (i.e., the fact that the ends chosen by human actors are always personal, *subjective choices*); this "subjectivism" apparently runs afoul of the so-called objectivism and objectivist philosophy propagated by Rand and her disciples. But human choices are *objectively* subjective, and thus any disapproval would be based on no more than a simple misunderstanding. Or else the Randian quarrel with Mises's subjectivism is meant to be a critique of his utilitarianism. And in this regard they would indeed have a point. True enough, Mises's utilitarianism does not really qualify as an ethic, nor does Mises claim that it does. But this gap

The question of how to begin philosophy and how to put our knowledge on firm grounds is almost as old as philosophy itself. Mises made an important contribution to it, and I, inspired by my earlier study of various German rationalist philosophers (of the Frankfurt and the so-called Erlangen-Konstanz-Marburg School), have tried, here and there, to clarify and add to his "solution." I am still not entirely satisfied with it all and will here present only some bricks and cut some corners rather than offer a completed building, then, but inshallah, if God wills, there will be more forthcoming.[2]

Incidentally, the two intellectual traditions that I try to integrate appear to be entirely unaware of each other, although they run largely parallel in time (and, interestingly, they are politically far apart: the German philosophers, especially of the latter-mentioned school, are mostly mathematicians or natural scientists, essentially unfamiliar with economics and, typically, some sort of social democrats).

Descartes, as you have all heard, claims his famous "cogito ergo sum" as the certain foundation of knowledge. The empiricists such as Locke claim that it is sense impressions that are at the bottom of our knowledge; Mises considers the fact that humans act purposefully as the "ultimate given"; and people such as Popper deny that any such ultimate starting point exists and assert that any attempt at searching for it will end in an infinite regress.

A little reflection shows that none of this will quite do: because all these proposals come in the form of words, of language, and of propositions. We *speak or write* in meaningful words and sentences about our self-consciousness, our sense impressions, our actions, or the infinite regress in our search for some ultimate foundation.

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was filled by Mises's leading student, Murray Rothbard (1998), with his *The Ethics of Liberty*, which completed and enlarged the Misesian edifice into an integrated, full-blown system of "Austro-libertarianism." In comparison, Ayn Rand's ethic, as presented for instance in her *The Virtue of Selfishness* (Rand 1964), notwithstanding some considerable overlap with the Rothbardian ethic, leaves much to be desired in terms of analytic rigor. Far worse, unbeknown to or ignored by many or even most self-described Randians, except the members of the inner, cultish circle (the Randroids, of course), is the other, darker side of Randianism, including the master Rand herself, that belies much or even all of their otherwise much-proclaimed "individualism" and reveals them instead as proponents of the idea of collective guilt and punishment and as advocates of some genocidal collectivism. See on this aspect of Rand and Randianism the important article by Fernando Chiocca (2023).

[2] For my most recent effort in this direction, see Hoppe (2023).

Thus, unwittingly and as a matter of fact, they all have affirmed the existence of one and the same point of departure: namely, language (whereby it is irrelevant whether it is English, German, Hopi, etc.—*any* language). For the sake of brevity, I will spare myself a detailed account of the praxeological implications of this fundamental insight. But just intuitively, a language, any language, is a public and common language (there is no such thing as a "private" language, as Ludwig Wittgenstein has demonstrated), spoken with and to be understood by other persons for the purpose of communication, a public tool that some people are good at handling and others bad, helping us move around in the social world by means of words alone. And second, any language is learned and acquired by infant persons in interaction with older people, and the correct use and understanding of words is exercised, tested, corrected, and demonstrated through the performance of specific actions (and reactions) in the real world. (The learning and perfection of foreign languages occurs in real, interpersonal actions as well.)

Which brings me back to Mises and his claim of human action as the ultimate, a priori foundation of knowledge. Speaking and writing, and all philosophizing, are done in language. There is no other beginning, and these activities, indeed all communicating in meaningful words, are themselves also actions. So Mises is ultimately right. But it is *real* actions, and the success or failure of *real* actions, that precede and provide the ultimate testing ground for all mere *talk* about actions. Actions, that is, speak louder than words and serve as ground to verify or falsify words. *Handwerk* (handwork) provides the basis and testing ground for *Mundwerk* (talk). There is no infinite regress as far as our knowledge of man is concerned: such is only the case as long as you stay exclusively within the realm of words; but once you recognize how words are tied to objects and get down to the level of real actions, all further questions disappear. You are on unmovable ground. You cannot ask for a justification of action, as this question would be an action itself.

In the (or rather one of the) rationalist tradition(s), a proposition is considered ultimately justified if you cannot doubt it without falling into what is called a performative (or dialogical) contradiction—that is, if the content of what you are saying stands in contradiction to what you are actually doing or claiming to do. Thus, you can say, of course, that you cannot act or speak, but this would be contradicted

by the fact that you are doing what you say you cannot. You can say you can be in two places at once or climb up and down the stairs simultaneously—that would not be logically contradictory—but it would entail a performative contradiction, because you are not doing so and cannot actually do so. You can say that some object has the property of *A* and non-*A* at the same time, but whenever actually dealing with that object, you cannot but treat it as either an *A* or a non-*A*, and never simultaneously as both. You can say that the rules of elementary logical reasoning (i.e., the rules of using such terms as "and," "or," "one," "some," "all," and so on) are just linguistic conventions, but you cannot actually treat them as such (rather than as necessary or a priori valid norms) without continuously failing to reach your own goals. Likewise, you can say, of course, that the experience of action is derived from sense impressions, but there is no way to get from sense impressions to meaningful words and sentences. Rather, the making and reporting of sensory observations is itself an action and presupposes all categories or concepts implied in the notion of the purposeful pursuit of some end or goal.

Enough of this digression and back, more directly, to Mises and *Human Action*.

In any case, my little excursion into the field of the philosophy of language turns out to be quite useful in elucidating two fundamental distinctions made by Mises in his work: his twofold distinction—or dualism—between the natural sciences on the one hand and the sciences of acting man on the other; and within the latter field (the social sciences in general) that between theory (made up of apodictic, or synthetic a priori, propositions) and history (concerning the reconstruction of singular past events or the speculative anticipation regarding some specific future event).

Put as briefly as possible: nature is everything, all objects, with which we can*not* communicate and coordinate our actions by means of words and sentences (or do so only in some metaphorical sense, as when we "talk" to animals). As for *such* objects, we cannot know, and never find out, *why* they behave the way they do. They just do. There is no reason, motive, or purpose involved or to be discovered in nature or natural evolution. There is no rhyme or reason to it. It is just what it is. All we can do here is look for, and discover, causal relations: how to produce some specific result *A* by arranging some

causes *X*, *Y*, *Z*, and so on in some specified way. In this field, then, the alleged "great problem" of rationalist philosophy—the infinite regress in the process of justification—intuitively makes a certain amount of sense at first: because you can always and endlessly ask, "But what of the cause of the cause?" What is the cause of gravitation, or of the big bang? And what is the cause of that cause? But even that problem turns out to be, practically speaking, irrelevant: because, as the constructivist philosophers, from Hugo Dingler to Paul Lorenzen to Peter Janich, in particular have demonstrated, the natural sciences all rest on some "technological a priori," in the form of purposefully constructed measuring instruments, and thus any regress here finds a quick practical end.

But this is not to be my topic here. Mises's second-mentioned distinction can also be readily explained. Every action, including all communication, can come out as a success or a failure, and whatever a person may hope, no one knows in advance which it will actually be. Thus, with every action a new situation is created; the actor has learned something new and faces a new situation. Accordingly, there can be no general, unchanging law of what it is that people will do (i.e., the specific content of their actions). Put briefly: we can never know in advance all of the sorts of actions that people can perform or may be able to perform in the future. Can you predict what sorts of products will be available for sale twenty years from now, for instance? Here we are left to historical reconstructions and narratives, respectively, for speculations regarding the future. But what we *can* say with certainty is that regardless of whatever the specific actions of a person in this or that situation may be, for any and all cases it holds that every action turns out either successful or not.

And this, then, is the unique epistemological status of praxeological laws: they are propositions not about the specific content of the actions of specific actors in specific situations, but about the formal structure of all—each and every—action by each and every actor and at all times, unchangeable and unaffected by any future learning of his or any future change of circumstances.

Let me, for the purpose of illustration, use an analogy here to the philosophy of language. We cannot predict all of the words or sentences that people will ever speak or write. Indeed, there are many different natural languages, and people may come up constantly with new words—and

in this respect language may be considered just a convention. But each and every language, for instance, must make use of "identifiers" (i.e., of proper names such as "Peter" or "Paul") or words such as "this" or "that," and it must make use of "predicators" (i.e., of words asserting or denying certain properties of the identified objects). Otherwise we could not even produce the most elementary propositions such as "this is such and such" as expression of any "experience" whatsoever. Without the use of elementary propositions, then, no meaningful communication whatsoever would be possible between people.

Let me quote Paul Lorenzen (1969, 14) to this effect: the "decision to use elementary ways of speaking is not a matter of argument. It does not make sense to ask for an 'explanation,' or to ask for a 'reason.' For to 'ask' for such things demands a much more complicated use of language than the use of elementary sentences itself. If you ask such questions, in other words, you have already accepted the more elementary usage." And he further explains, "Each proper name is a convention (because I know many sounds I could use instead), but to use proper names at all is not a convention: it is a unique pattern of linguistic behaviour. Therefore, I am going to call it 'logical.' The same is true with predicators. Each predicator is a convention. This is shown by the existence of more than one natural language. But all languages do use predicators. This is a logical feature of our linguistic behaviour" (16).

I trust that you immediately recognize the parallel between this intellectual enterprise of reconstructing and formulating a universal "logic" of speaking and thinking *as such* (i.e., regardless and totally abstracted from any specific *content* of speech or thought—and let me just add in parenthesis that great advances have been made in the meantime in this endeavor, going far beyond the just-cited first "beginning" with elementary propositions, by the various proponents of this rationalist intellectual tradition) and Mises's enterprise of reconstructing and formulating a universal "logic of action"—or what he called "praxeology"—that is, the laws of acting *as such*, regardless of the specific content of an action.

Interestingly, by the way, both intellectual traditions—the representatives of the mentioned German philosophical rationalists, as well as Mises and the practitioners of his praxeological method and analysis—are today largely considered "outsiders" within their respective fields: of the philosophy of science on the one hand, and of economics on the other. As

intellectuals who uphold the idea that there are universal, nonfalsifiable truths out there in the areas of thinking and acting, they are considered "troublemakers," if you will, in an intellectual environment dominated by an almost childish form of empiricism and relativism.

But now, then, without further ado, and as promised, just a few examples of praxeological insights for the purpose of illustration and to come to an end.

Whatever a man may do, we know for sure that he does so for a reason and with a purpose (i.e., with some anticipated future state of affairs in mind); we know that whatever he does, he does so with means thought to be suitable to reach some ends; and we know all of this with apodictic certainty (or a priori), insofar as we cannot possibly dispute such knowledge without thereby actually affirming its truth (in that its denial is itself a purposeful, goal-directed action).

And while we can never "scientifically" predict the specific *content* of our own or our fellow men's future actions—that is, our specific choices of ends and means in a continuously changing environment—based on our aprioristic knowledge concerning the *formal* structure of all of human action we can derive an impressive number of equally aprioristic (universally valid) conclusions. These conclusions are either directly implied in the concept of action; or else they are conclusions reached indirectly, in conjunction with some explicitly stated initial empirical (and empirically verifiable) conditions or premises, so as to allow us to also make some apodictic (nonfalsifiable) predictions of central importance concerning the social world—provided only that these initial conditions are indeed met and fulfilled. I shall present merely a few examples of such propositions here to give a flavor of their epistemological status as well as their practical importance.

We do not know all potential human goals, but we do know for certain that whatever they may be, they are supposed to bring about an improvement in an actor's well-being; and we do know for certain that wherever and whenever a person does what he does, he always does so because he considers it, in his situation, his most highly valued or most urgently needed goal or end.

We do not know all potential means employed by man in his activities, but we do know for certain that whatever an actor uses as a means derives its value as a "good" for him from the value the actor attached to the very end or goal that it is supposed to help bring about.

In addition, while we cannot predict changes in the subjective value attached to various ends, we can predict with certainty that a higher (or lower) value attached to some given goal, whatever it is, will also raise (or lower) the value of the means or goods used to produce this goal; and that the discovery of the suitability of certain means for additional goals, for instance, will increase the value of such means.

Moreover, while we cannot know (scientifically predict) what thing or entity may ever be used as a means or a good by man, we know for sure that it holds for everything ever considered a good by an actor that more of such a good is preferred by him over less.

Furthermore, we know for sure that as more and more units of some given good are added to our supply, the value attached to a unit of such good decreases, as this unit can only be employed for the satisfaction of increasingly lower-ranked (or less urgent) ends or needs (the law of diminishing marginal utility).

We cannot predict "scientifically" what sorts of goods or products man will ever produce and what sorts of goods or products he may ever consume, but we know for sure that there can be no consumption without prior production, and we can also be certain that whatever is consumed today cannot be consumed again tomorrow.

Also, we know with certainty that man cannot for any lengthy time consume more goods than he produces (unless he steals from others), and that it is only by way of savings, in consuming less than what he produces, that he can possibly increase his own prosperity.

We cannot make safe and certain predictions concerning where, when, and what sorts of exchanges (be it of material goods or immaterial ones, such as words or gestures, for instance) are to take place between various people, but we do know for sure that for any voluntary exchange to take place it must hold that both parties to the exchange expect to be made better off by the exchange, that they evaluate the goods to be exchanged as of unequal value, and that they have an opposite preference order regarding them.

Additionally, from the outset of human history, we cannot know what sort of thing is to become a money (i.e., a common medium of exchange), how long it is to maintain its status as money, or what other thing might replace it as money in the future. But for any society exceeding the size of a single household and with a bare minimum of

a division of labor, we can, based on our aprioristic knowledge concerning the universal structure of action, deduce and safely predict the emergence of *some* common medium of exchange. Because any direct exchange of goods or services requires a double coincidence of wants: I must want what you have, and you must want what I have.

Yet this obstacle and limitation of direct exchange can be overcome, and the conditions for an actor can be improved, by means of indirect exchange. A person who cannot attain what he wants in direct exchange can increase his chances of getting what he ultimately wants if he succeeds in first acquiring a *more marketable* good than his own in exchange, to be then more easily saleable for the ultimate thing. This practice further increases the marketability of the very good in question and stimulates others to follow this example. Thus, step by step, via rationally motivated imitation, a common medium of exchange is to emerge: a money (originally a commodity money), as the most easily saleable and most widely accepted good, and as such clearly to be distinguished in its function from both producer and consumer goods.

With money come money prices, price comparisons, and economic calculation, and there is nothing to be known with certainty about future money prices paid for this or that, about future price comparisons, or about future business calculations. But again there are some things that we do know for certain. For instance: If the quantity of money is increased, the purchasing power per money unit is reduced below what it would have been otherwise. An increase in the quantity of money cannot increase overall social wealth (as an increase in producer and consumer goods would) but can only lead to a redistribution of wealth to the advantage of the money producer(s).

Economic calculation requires that you are able to compare the input of production with the output of production to determine whether less valuable means were transformed into more valuable means (as intended). For such a comparison to be possible there must be money prices for all factors of production as well as for all final goods. Under old-style socialism, with all means of production owned and controlled by one central committee, no input factor prices exist; hence economic calculation under socialism is impossible.

We can also know for sure (via the law of marginal utility) that if the price for some good is increased (or decreased), and everything else is assumed to remain constant (ceteris paribus assumption), then either the same quantity or less (or either the same quantity or more) will be bought.

And we know just as surely that prices fixed above market prices, such as minimum wages, will lead to some unsaleable surpluses (i.e., to forced unemployment), whereas prices fixed below market-clearing prices, such as rent ceilings, will lead to shortages (i.e., to a persistent shortage of rental housing).

And we know as well with certainty that if any of these predictions happen to fail in some particular case, this would not be because of an error in our logically deduced conclusion but because the ceteris paribus assumption had not been met in the case under consideration, and we would have to look for some significant changes in an actors' empirical circumstances in order to account for the observed anomaly.

No "experience" or so-called empirical evidence can ever falsify, beat, or trump praxeology and logic, but praxeology and praxeological reasoning can reveal that there is something wrong about some alleged experience or evidence. I could go on and on with further examples of apodictic propositions—that is, of propositions that can be *begriffen* (conceptually grasped). But I am quite confident that the short list of examples that I have provided suffices to demonstrate that they have a distinctly different epistemological status from what are commonly understood as "empirically falsifiable hypotheses."

Looking from a methodological point of view at the current state of affairs in the social sciences (including economics), then, two major and interrelated confusions can be readily diagnosed, both ultimately rooted in the typically unquestioning acceptance of some variant of "empiricist philosophy" among most practicing social (and nearly all natural) scientists.

The first confusion concerns the widespread belief that things can be accomplished in the social sciences that simply *cannot* be accomplished. Contrary to the belief of many social researchers, there are no "empirical laws"—verified, confirmed, or not yet falsified by empirical data—to be found and discovered within the realm of human action and interaction. There may be tendencies or somewhat

stable patterns to be found. But that is that. Here, more humility is in order. One's research may still be interesting and relevant, but it is not what it claims to be.

And the second confusion, widespread in particular among economists, has just been addressed: it is the inability (or unwillingness) to recognize the categorical epistemological difference between apodictic—or in Kantian lingo, "synthetic a priori"—propositions on the one hand and empirical, or "a posteriori," propositions on the other. As "good" empiricists who only recognize and only know of empirical laws (apart from math), they are increasingly often busy subjecting propositions that are deductively derived from some a priori true starting point to empirical tests. That is, they test the untestable, and they try to falsify the nonfalsifiable, and whatever insight may happen to spring from such misguided endeavors is overshadowed by the intellectual damage done (and the confusion spread) by the blatant category mistake undergirding and committed with any such research.

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7

The Challenge of Praxeological Realism

Jörg Guido Hülsmann

Professor Salerno has kindly invited me to recount the ongoing impact of Ludwig von Mises's magnum opus on my own intellectual development. In what follows I will first describe how I encountered Mises's ideas in the early 1990s. Then I will zoom in on *Human Action* and explain why it embodies the research paradigm of praxeological realism. Finally, I will present how I have tried to develop this paradigm in my own work.

I

The first time I read about Ludwig von Mises must have been in the summer of 1991. I was studying mechanical engineering, management, and economics at the Technical University of Berlin, as well as philosophy at the Free University of Berlin. My main field in economics was international and monetary economics. The classes were taught by Professor Hans Hermann Lechner. In his treatise on monetary policy, he had quoted Mises and Hayek (see Lechner 1987, 241, 245, 255), and in his classes, he occasionally stated that the history of economic thought was not a one-way street and that precious nuggets could be found in the older writings. I heeded the lesson. When a few years later I read Murray Rothbard's (2006, ix, 438) opposition to the Whig theory of history, I remembered that I had already heard this criticism in a lecture hall in Berlin.

The first time I opened a copy of *Human Action* was probably in the late summer of 1992. By then I had come across Mises's name a second time. I had spent the academic year 1991–92 in France, at Toulouse Business School. In those days, the school had only one full-time economics professor. His name was Claude Courtois. The good professor was very eager to coach the students who showed any interest in academic research, and there were always some students of this sort. Their parents wished to prepare them for a business career, but they did not care for marketing, finance, and human resources. They felt a calling for philosophy, economics, sociology, anthropology, history, and political science. Dr. Courtois was there to help them. He had created a curriculum designed to initiate them into research and teaching. Quite a few professors came out of his program. It was made for me.

In the second semester, we had to write a substantial research paper. Since I was interested in economic policy and much more libertarian minded than my French classmates (even though I was at the time no more than an open-minded social democrat), Dr. Courtois had me read Hayek's 1952 book *The Counter-revolution of Science*, as well as a collection of articles by Murray Rothbard which had just appeared in a French translation (under the title *Économistes et charlatans*). This was my initiation into Austrian economics, but it did not turn me into an Austrian. I was much more eager to learn more about the German ordoliberals, the so-called Freiburg School of economics.

Then something unexpected happened. When I presented my project to the class, Dr. Courtois chided me for a distinct lack of clarity. What kind of research I was up to? "Do you want to do research like Mises or like Sombart?" Here was this name again, Mises, and I still had not read a single line from his pen (nor from Sombart's, by the way). I had a hunch that I would turn out to be closer to Mises than to Sombart, and said so. My intuition in late 1992 was a premonition of things to come. Having now studied all of Mises's books and quite a few of Sombart's, I can vouch that, in economics, my hometown is Vienna, not Berlin.

Upon my return to Germany later in the summer of 1992, I had to write a master's thesis. It was a hot summer, and I spent it mostly in the library and in front of my laptop. My work dealt with economic conceptions of power. That is when I came across Mises a third time,

and I would then actually read a few pages in *Human Action* in which Mises dealt with the difference between contractual bonds and hegemonic bonds (see Mises 1998, 196–99). It was obvious that he was an eminently clear writer and deep thinker, but I did not have the time to study his treatise in any detail.

At the end of that year, I enrolled in doctoral studies in money and banking under the direction of Professor Lechner. Now there was time for in-depth reading, especially in the field of monetary economics. The first book on my shelf was Mises's (1924) *Theorie des Geldes und der Umlaufsmittel*. I thought that before turning to the present-day literature, it would be helpful to take a look at the state of monetary thought at the outset of World War I, in order to appreciate the progress that had been achieved since then. I opened the book at Christmas of 1992 and was in for a great surprise.

This old master excelled in clarity of expression, and he had dealt with a subject of immense importance—the nature, causes, and consequences of the subjective value of money. From my previous studies I knew that this topic had not made it into the standard texts in money and banking. Mises demonstrated that this omission had been a grave error. Because subjective value was at the heart of monetary exchange, money prices were not related rigidly. An x-percent increase of the money stock was not bound to produce a y-percent increase in the price level at all times and in all places, but it definitely entailed a price-level *increase*. There were laws of money, but these laws were *ordinal* laws, not *cardinal* ones.

Even more intriguing was the way Mises approached this topic. He did not posit some more or less plausible hypotheses about possible causal connections between money prices, the money stock, interest rates, exchange rates, and so on, and then present various statistics and whatever other evidence was available to support his contentions. Rather, he proceeded in a purely logical, step-by-step deduction. He started from first principles relating to the nature of money and the nature of human action, and eventually worked his way to monetary policy and banking policy.

Even though I understood immediately how very different this book was from the standard texts on money and banking, at the time I was too ignorant to fully appreciate its achievements. Some twenty-five years later, when I had come to a more mature understanding of

the book and its historical significance, I would write that it "rebuilds classical monetary theory on a completely new and more solid foundation, thus awakening it out of the slumber into which it had sunken after 1844 and making it relevant again for political decision-making" (Hülsmann 2018a, 26). I did not close it before I had studied it from cover to cover and taken numerous notes. At the end I had become a great admirer of this old economist from Vienna. I had started to become a Misesian.

II

The next thing was to read as many books from Mises as I could get my hands on. One of these books was *Nationalökonomie* (Mises 1940), the German-language predecessor of *Human Action*. At the time there was no literature on the differences between the two books. I therefore focused my attention on what I believed to be the German original text, in order to sidestep any imprecisions that might have resulted from the translation. A few years later I understood my error.

One of the reasons for the perennial value of *Human Action* is that a lot of time went into the elaboration and presentation of its content. Mises worked on writing *Nationalökonomie* from 1934 to almost 1940. Of course, the preparation time was much longer, since large parts of the book relied on his previous research. But then he had the opportunity to revise this work, and, moreover, circumstances compelled him to do it in a foreign language.

The great *dis*advantage of writing in a foreign idiom is that you lose nuance and context. That is a big problem for the work of historians, who deal with the special and often unique circumstances of human action that prevailed there and then, but not elsewhere and at other times. But is it not a big problem for praxeology, which deals with universals—that is, with what holds true at all times and in all places. The great *advantage* of writing in a foreign idiom is that it becomes impossible to brush over any imprecision in thought with linguistic fireworks. *Human Action* is such a fine book not least of all because it is written in an impeccably simple and clear prose.

Studying *Nationalökonomie* allowed me to relearn economics from the bottom up. The book featured the deductive approach that I had already appreciated in *The Theory of Money and Credit*. But now

there was so much more. Here appeared an entire system of thought dealing with two intricately related subjects: human action and the science of human action.

Mises is often portrayed as a fountainhead of modern libertarianism, and rightly so, but the emphasis of the book is elsewhere. He discussed economic policy only in the last parts of *Nationalökonomie*. The main body dealt with the foundations of the theory of human action, starting with epistemological questions and then continuing with an exposition of the universal features of human action, such as the laws of subjective value, the law of returns, and the principles of the division of labor. Before he even said the first word about the market economy, Mises stressed the fundamental importance of economic calculation.

I have no doubt that the main factor that drove his passion for economics was the possibility of applying these conceptions in practice. Economics was not a mere ivory-tower pastime for Mises. It was the foundation for rational public policies. But the novelty and force of the book was that he argued that public policies could be built on universal scientific laws of human action (praxeological laws) and that these laws could be identified and defined with the help of a priori reasoning.

In other words, Mises made the case for praxeological realism. For me, with my background in mechanical engineering, philosophy, and neoclassical economics, *this* is what made his book so intriguing. It was at odds with all the standard ways of thinking, but praxeological realism was not obviously absurd. It clearly was an intellectual challenge. And, to be sure, it also was a *political* challenge, at any rate in the eyes of those who are accustomed to justifying each and every policy with tidbits of scientific "research." Let me therefore spell out these challenges in a bit more detail (see also Hoppe 2023).

III

Following Carl Menger (1883), Mises argued that there are exact economic laws. That is, there are relationships between causes and consequences that do not merely hold true here and there, being liable to change in the future, but that hold true at all times and in all places. They are universal and immutable. Going beyond Menger, Mises

argued (1) that all economic laws are emanations of the nature of human action. And he also argued (2) that the way we come to know, to demonstrate, and to refute these laws is through pure reasoning.

The idea that there are universal relationships between cause and effect is a cornerstone of human existence. All tools, all agriculture, all industrial endeavors are built on them, and everybody takes them for granted. All airline and bus passengers assume (to the extent that they give the matter any thought at all) that the physical characteristics of the materials out of which their airplanes and buses are built are the same at all times and in all places. They assume that the effects of gravitational pull are similarly universal, as are the laws of free fall, the intercept theorem, Pythagoras's theorem, and various other chemical, mechanical, and geometrical laws. Everybody is also ready to admit that no extended object can be red and green all over at the same time, that 7 + 5 = 12, and that various other arithmetic and spatial relations also hold at all times and in all places.

However, when it comes to economic and social policy, or to legal questions pertaining to the organization of society, the idea that such matters may be resolved with the help of universals seems to be not much more than an interesting hypothesis with no shred of evidence to back it up.

And indeed, universals cannot be *demonstrated* in economics with the procedures that are typically used to demonstrate them in the natural sciences—most notably with the help of laboratory experiments. The laboratory serves to study one particular relationship, such as gravitational pull, by eliminating or at least stabilizing the influence of all other relationships that might have an influence on the speed of a moving object. Once the relationship between masses and acceleration that we call "gravitational pull" is established, it is held to be true under all other conditions of time and place that fulfill the specific conditions of the experiment (altitude, temperature, air density, and so on). In principle, only one experiment, if impeccably executed, would be sufficient to establish a relationship that exists at all times and in all places under similar conditions.

Laboratory experiments are unavailable in the sphere of human action. Every action results from a combination of universal and

contingent factors. It would therefore be necessary to eliminate the influence of the contingent factors through some sort of laboratory setup. But that is not possible. The human decisions at the heart of human action are *value judgments* which ponder the influence of all the prevailing circumstances, and these value judgments are contingent. They are the most important of all the contingent factors influencing human decisions, and they cannot be eliminated from the study of human action without eliminating human action itself.

Menger and Mises understood that laboratory experiments were not necessary when studying human action. Universal causal relationships could be demonstrated with the help of purely logical inferences from facts that were known to all human beings, facts relating to the very nature of human action. For example, it is common knowledge that human beings have the ability to make choices between alternatives, that such choices therefore involve a ranking of the alternatives, and that the rank of each alternative expresses its subjective value relative to that of the other alternatives. It is also common knowledge that human beings consider some goods to be composed of equally serviceable units. From this it logically follows that each unit in a larger overall stock (one apple in a stock of ten) has a lower rank than each unit in a smaller stock of the same good (one apple in a stock of nine). The reason is that, whereas all things that can be done with a stock of nine can also be done with a stock of ten, the stock of ten allows one extra thing to be done, and this thing must necessarily be *less* important than any of the things that would have been accomplished with any of the units of a stock of nine. For the first nine units are necessarily allocated to those nine things that the acting person considers to be the nine most important things. By the very logic of this state of affairs, therefore, the tenth thing is necessarily less important than any of the first nine. It follows that any unit in a stock of ten invariably has a lower rank (a lower subjective value) than any unit in a stock of nine. This is called the "law of diminishing marginal value."

Like all scientific laws, it holds ceteris paribus. Various complications give rise to other and sometimes more complicated causal relationships. One example:

> A man owns five units of commodity *a* and three units of commodity *b*. He attaches to the units of *a* the rank-orders 1, 2, 4, 7, and 8, to the units of *b* the rank-orders 3, 5, and 6. This means: If he must choose between two units of *a* and two units of *b*, he will prefer to lose two units of *a* rather than two units of *b*. But if he must choose between three units of *a* and two units of *b*, he will prefer to lose two units of *b* rather than three units of *a*. (Mises 1998, 120)

In economics, then, we are dealing with universal relationships between the causes and the consequences of human action. They spring from the nature of human action, from its inner logic. This is why Mises calls them "praxeological laws" and argues that they hold true a priori, meaning that their validity is independent of any concrete experience and of any historical situation. For example, the law of diminishing marginal value is true even if, in a concrete situation, there is no stock of equally serviceable units. In situations of this sort, the law would not *apply*, or instantiate, but it would still *exist*—just as the impossibility of any extended object being red and green all over at the same time holds true independently of the question whether a *particular* object has some red or some green color. The distinction between the existence and the instantiation of a universal relationship is a key idea of philosophical realism. Misesian praxeology is realist in this sense. It is praxeological realism.

Mises came to espouse praxeological realism rather reluctantly. He started off as a disciple of Carl Grünberg, an eminent champion of the German Historical School at the University of Vienna. Grünberg and the other historicist professors taught that there were no universal laws of economics. *All* causal relations in the sphere of human action were historically contingent and therefore bound up in constant change. The consequences that followed from a wheat tariff in Austria in the 1890s were therefore unlikely to be valid in the 1910s, or in Denmark in the 1950s, or in Belgium in the 1890s. Mises thoroughly studied the historicist hypotheses and methods, but then he encountered the writings of Carl Menger. The father of the Austrian School of economics taught that there were *not only* contingent causal relations, *but also* exact and universal ones called economic laws, which determined the values and prices of all economic goods. Menger argued that economic science revolved around the study of such universals, whereas the study

of contingent facts and relations was the proper job of historians, not of economists. Mises came to conclude that Menger was right. He dedicated the rest of his life to developing the Austrian approach.

It was this decision that cost him his academic career. The tenets of the Austrian School have almost always been unpopular with the authorities who decide who gets hired as a taxpayer-funded professor. Indeed, if there are universal laws of cause and effect, then governments and political parties are not omnipotent. They must conform their decisions to an objective reality which they do not control. This can be a bitter pill to swallow for an ambitious governor or senator, and it can be a veritable stumbling block in an election campaign, in which one candidate tries to outbid the others with preposterous pledges. Mises has always upheld truth to power and thereby provided great service to humanity. However, he was not useful to the powerful and therefore had to spend his life on the margins of state-funded academia. In *Human Action*, he expressed this state of affairs with these words: "It is impossible to understand the history of economic thought if one does not pay attention to the fact that economics as such is a challenge to the conceit of those in power. An economist can never be a favorite of autocrats and demagogues. With them he is always the mischief-maker, and the more they are inwardly convinced that his objections are well founded, the more they hate him" (Mises 1998, 67).

IV

This brings me to the question of how Mises impacted my own career. No servant is greater than his master (Jn 13:16), and this holds true in the present case. For the same reason that Mises's ideas were unpalatable to the powers that be in his time, they are "unhelpful" to the rulers of our present day. Whoever serves this cause is unlikely to be called to the high grounds of state-funded economic science. He must be willing to dwell on the low grounds and to roam in the wilderness.

While the cards are stacked against any aspiring young economists who takes his inspiration from Mises rather than Sombart or Marx, as of this writing, it is still possible to make a living as a professional Austrian economist. In my case, this began in 1995, when I attended my first summer university in Auburn and met two great scholars who

would quickly become my mentors: Hans-Hermann Hoppe and Barry Smith. In the same year, during a stint at the statistics department of the International Energy Agency, I also got in touch with Bertrand Lemennicier from the University of Paris, who eventually connected me with Pascal Salin. Then, in January 1997, Lew Rockwell commissioned me to write a Mises biography. A few months later I also obtained a scholarship from the German Academic Exchange Service for a postdoc in Paris with Professor Lemennicier, and another scholarship from the Humboldt Foundation for a postdoc in Buffalo with Professor Smith. About a year after my arrival in Buffalo, Lew Rockwell offered me a permanent position at the Mises Institute. The rest is history.

The work on the Mises biography afforded me the great opportunity to deepen my acquaintance with Mises. My plan was to present the evolution of his ideas in their context. Meanwhile I had become very familiar with his writings. Moreover, I could rely on two abundant archival sources from Moscow and Grove City College (a total of some fifteen thousand pages) which had not been studied systematically by any previous writer. But I also had to prop up my reading in history and in the history of thought, and this turned out to involve much more work than expected. The project eventually took more than ten years from start to finish. Happily, it opened new perspectives, not only on Mises and his ideas, but also on the evolution of economic science in the twentieth century (see Hülsmann 2007).

During the years that were mainly dedicated to the Mises biography, I also started a parallel research program of an entirely theoretical nature. Here I dealt with various problems that I had come to see in Mises's conceptions. Mises had convinced me of the case for praxeological realism. He had demonstrated that economics was, at heart, a body of universal propositions which held true and could be known a priori. But while this demonstration was convincing in some of the most important cases (such as the law of diminishing marginal value and the law of returns) and therefore also convincing in general, it was not satisfactory in every case. I therefore undertook to revise these weaker arguments and come up with better solutions.

This endeavor may come as a surprise to those who think that praxeological research is strictly speaking impossible because praxeological laws hold true with "apodictic certainty" (see Mises 1998, 105, 117, 196). It would therefore seem that no additional reflection

is necessary and no further discussion possible. The only thing left to do would be to learn and assimilate the unshakeable theorems defined by previous generations.

However, this view of apodicticity is mistaken. A proposition about cause and effect in the sphere of human action is apodictically certain to the extent that it follows from the *nature* of human action, because then by definition *no exceptions* are conceivable. In other words, a proposition or theorem is apodictically certain to the extent that it is universal, and cannot be thought to be other than universal, because it concerns the very nature of human action. But two fundamental questions remain: What *is* that nature, and what are the concrete praxeological relationships implied in it? These questions cannot be fully answered in one-line sentences. The nature of human action is not one-dimensional, but multifaceted. It involves purposeful behavior and the choice between different ends and different means, but also technical relationships and value relationships between means and ends. It involves a normative context. It involves the passage of time, the presence of ignorance and uncertainty, the use of property, and many other elements. Praxeological research is therefore possible and necessary. It is open-ended and fallible (see Smith 1996).

Ludwig von Mises (1998, 39) emphasized that the "starting point of praxeology is not a choice of axioms and a decision about methods of procedure, but reflection about the essence of action." Of course, this is not limited to reflections about human action *in general*, but also concerns the various concrete features of action. Accordingly, a reflection about the nature of human error has led me to revise the traditional Austrian business cycle theory (Hülsmann 1998). Contemplation on the relationship between means and ends has led me to revise the theory of interest (Hülsmann 2002). Meditation on the relationship between private property and human action has led me to revise the standard theory of moral hazard (Hülsmann 2006). Rumination on the relationship between the different ways of using money has led me to revise the theory of the time structure of production (Hülsmann 2008a, 2009, 2011). Closer thought about various types of human knowledge has led me to give greater precision to Mises's theory of risk and uncertainty (Hülsmann 2018b). Reflection on the normative context of human action has led me to revise the definition of inflation (Hülsmann 2008b), to outline a praxeology of

financial markets (Hülsmann 2023), and to develop a praxeology of gratuitous goods (Hülsmann 2024).

V

Last but not least, contemplation on the nature of economic laws has led me to revise the epistemology of economics and argue that many economic laws are counterfactual laws. This work, too, was the result of a critical revision of the foundations that Ludwig von Mises laid in *Human Action*, and I consider it to be one of my most important contributions.

In the 1990s, when I first came in touch with the Austrian economics movement in the US, that movement had split into three distinct paradigms: the praxeological paradigm of Mises and Rothbard, the knowledge and information paradigm of Hayek and Israel Kirzner, and the radical uncertainty paradigm of G. L. S. Shackle and Ludwig Lachmann. Rothbard had criticized the last two and championed praxeology. I was ignorant of his famous 1992 lecture on the present state of Austrian economics (there was no internet in those days), but had argued somewhat along the same lines as Rothbard (1997) in my doctoral thesis. Hans-Hermann Hoppe, who had read the thesis, therefore invited me to present my point of view in an article for the *Review of Austrian Economics*.

In "Knowledge, Judgment, and the Use of Property" (Hülsmann 1997), I criticized the Hayek-Kirzner approach and argued that there was no tendency for the market process to ever reach equilibrium by the sort of learning process that Kirzner had championed in his writings. Learning of this sort was bound to be accidental and contingent, I wrote. It was not a universal and necessary (praxeological) feature of the market process. The basic praxeological category of entrepreneurial action was not *knowledge* (or learning or information), but entrepreneurial *judgment*. Nicolai Foss and Peter Klein (2012) later spelled out the same idea with greater thoroughness and in much more detail.

But if there was no universal tendency for equilibrium to be reached, did this not invalidate much of economic theory? Kirzner thought so, and that is why he developed his learning theory. Lachmann and Shackle thought so as well, and that is why they came to reject the

idea of universal economic laws. Mises did *not* think so. He thought that most economic theorems could be demonstrated without any reference to equilibrium. Only in very few cases was it necessary to build the demonstration on the imaginary construct of the "evenly rotating economy," and he even argued that the use of such constructions was "the specific method of economics" (Mises 1998, 237).

My solution was different. I argued that economics can be more realistic than even Mises imagined. It does not need to rely on any imaginary constructions at all. The purpose of equilibrium analysis is to explain the differences between equilibrium and disequilibrium. This difference does not depend on whether equilibrium ever exists at all. Even if the real world were always in disequilibrium, this would not reduce the necessity and utility of comparing it to a *counterfactual* world in which it was in equilibrium (see Hülsmann 2000). I later generalized this conception and argued that not only equilibrium analysis but also many other praxeological theorems have such a counterfactual nature (see Hülsmann 2003, 2004).

In this strand of my work, as in virtually all other areas, I took *Human Action* as my point of departure. Although I have often criticized Mises, I stand squarely on his shoulders and consider his accomplishments with great thankfulness and admiration.

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8

Property Rights and Entrepreneurial Judgment

Peter G. Klein

"Private ownership of the means of production," writes Ludwig von Mises (1949, 678) in *Human Action*, "is the fundamental institution of the market economy." Mises is well known for his claim that social cooperation under the division of labor is the essential characteristic of human society. The most advanced form of society—the one that maximizes the well-being of the community, in Mises's understanding—is the market economy, the system featuring private ownership of productive resources, exchange of these resources via a system of prices and market, and economic calculation in terms of money prices by entrepreneurs and other market participants. Without private property, there are no exchanges, no prices, and hence no means of allocating resources to higher-valued uses—as Mises famously demonstrated in his critique of socialist economic planning (Mises 1990a, 1951). Private property is thus "the institution the presence of which characterizes the market economy as such. Where it is absent, there is no question of a market economy" (Mises 1949, 678).

While Mises's analysis of socialism is well known, the role of private property in his broader vision of the market economy has received less attention. Indeed, a common critique of economics textbooks is that they take the institutional environment as given and then proceed to analyze resource allocation, first by the isolated individual (e.g., the

consumer maximizing utility), then among individuals via barter, then by means of some kind of price mechanism. The notion that private ownership precedes exchange is taken for granted and rarely analyzed or even discussed.[1] And while production and even "firms" (in the form of production functions or production possibilities sets) appear in textbooks, actual business firms and the capitalist-entrepreneurs who create, own, and govern them are almost entirely absent.

Mises's system places the property-owning, calculation-performing, forward-looking, appraising, and judging entrepreneur at the center of his analysis of production (Klein 2010). Mises's concept of entrepreneurial judgment, building on work by Carl Menger and other contributors to the Austrian tradition (Foss and Klein 2012; Klein and McCaffrey 2022), has been highly influential in the entrepreneurship literature. However, the connections between private property, entrepreneurship, and ownership deserve further attention. This essay reviews briefly the treatment of property and ownership in the economics and management literatures and shows how different conceptions of property, and the challenges of defining "private" and "public" resources, affect our understanding of entrepreneurship and the entrepreneurial market process.

The Economics of Property Rights

A literature on the economics of property rights emerged in the 1950s and 1960s featuring important contributions by Ronald Coase (1959, 1960), Armen Alchian (1965), Harold Demsetz (1967), Henry Manne (1965), Steven Cheung (1968, 1983), Yoram Barzel (1982), and their

[1] As Armen Alchian (1965, 817) notes,

> If we look at the "fields" of economics, say as presented by the American Economic Association's classification of areas of interest or specialization, we find no mention of the word "property." Either we can infer that the profession is so obviously aware of the pervasiveness of the effects of various forms of property rights that property rights cannot sensibly be regarded as merely a subfield; or else we can infer that economists have forgotten about the possibility of subjective rigorous systematic coherent analysis of the various forms of property rights. My conviction is that the latter inference is the more valid one.

students and colleagues. This literature focuses on the costs of defining, protecting, and trading property titles. Coase's (1960) famous analysis of externality problems, for example, argued that external costs can be internalized via private ownership if rights are clearly delineated and that, moreover, if the costs of exchanging property titles are sufficiently low, the initial allocation of rights doesn't affect the ultimate use of property. (Often forgotten is that the bulk of Coase's paper is devoted to cases in which these transaction costs are prohibitively high—in which case he thinks that judges should resolve disputes about external costs by imposing the solution they imagine would have emerged through trade if property rights were tradeable.)

Demsetz (1967) notes that the decision to define and enforce property rights is itself an economic action and is performed only when the anticipated marginal benefits—formal use rights and alienability rights—exceed the anticipated marginal costs of drawing up contracts, recording deeds, building fences, litigating, and so on. This echoes Coase's (1959) analysis of the US Federal Communications Commission, which documented the emergence of a system of use rights over the electromagnetic spectrum (not full ownership rights, as the federal government was deemed the owner with the ability to license the use of particular frequencies to particular users) at the same time that radio technology and an advertising-based business model were being developed. (Before the invention of commercial radio, parties would not have bothered to devise a system of use rights.) In other words, property rights production can be considered an economic good.

Henry Manne, an important contributor to this literature himself, recalled hearing about these ideas from Alchian, who credited their inspiration to Mises:

> Because of my dissatisfaction with what developed as my program at Yale, I began doing considerable reading in areas mainly I'd learned from Aaron Director, works of Hayek, whom I had met at Chicago, and Mises. I always used to joke that I was one of the few people in the world who probably sat down and read the whole of *Human Action*, Mises' great work on philosophy

> and economics, which later on, you'll see, played a role in my intellectual development. . . .
>
> Just before the '62 article [Manne 1962] probably the seminal intellectual event in my life occurred. I was invited to a small conference for young professors at Claremont College, in which three very distinguished people held seminars for these young professors. One was John [Jewkes] from Oxford, who had taken a very strong position against British socialism, then the Labour government. Another was Felix Morley, who was a political opponent of Roosevelt during the New Deal, a distinguished journalist and political theorist. The third was a then somewhat young economist from UCLA by the name of Armen Alchian. I mentioned before that the Mises I read at Yale in 1952 or 1953 came back in the early sixties, because Alchian began his seminar by reading a paragraph. It was a paragraph about property, and he asked if anyone in the group could identify it. I was the only one; I recognized immediately that that was from Mises' *Human Action*. As he developed that first lecture—which became I think one of the most important economic articles of the twentieth century, "Economics of Property Rights" [Alchian 1965]—it was like a light bulb went off in my head, it was incredible. All of a sudden, everything that I had done intellectually for thirteen years came together, with this one idea of Alchian's about the real nature of property rights and the Misesian notion of people making choices, with every choice being a tradeoff, meaning that there is a cost—what you give away is the cost of what you get. (Manne 2012, 13–14)

Unfortunately, despite the important work of Alchian, Manne, and the others mentioned above, the relative neglect of property rights issues in mainstream economics remains to this day. To be sure, the "new institutional economics" associated with scholars such as Douglass North and Oliver Williamson takes property, ownership, and governance seriously (Klein 2000; Williamson 2000), and property rights issues have become more important in the analysis of economic development (de Soto 1989; La Porta et al. 1998). A new literature on incomplete contracts within and between firms is sometimes described as the "new" property rights economics (Grossman and Hart 1986; Hart 1995). This literature defines ownership as residual rights of control—as we shall see, this definition is close to Mises's understanding—and studies the impact of different asset ownership

arrangements on firm structure and performance (see Foss and Foss 2022 for an overview).

Property Rights and the Judgment-Based Approach to Entrepreneurship

Property rights are central to Mises's analysis of the entrepreneur. To see this, note first that entrepreneurship in the Misesian system is characterized by its generality, its emphasis on purposeful action, and the central role given to uncertainty and judgment. Writes Mises (1949, 248): "It is impossible to eliminate the entrepreneur from the picture of a market economy. The various complementary factors of production cannot come together spontaneously. They need to be combined by the purposive efforts of men aiming at certain ends and motivated by the urge to improve their state of satisfaction. In eliminating the entrepreneur one eliminates the driving force of the whole market system."

What is this driving force? It is the act of bearing uncertainty by taking ownership and control of productive resources in the present and deploying them, in various combinations, with the goal of earning revenues in the future from satisfying consumer wants. If these future revenues exceed the present outlays (taking discounting into account), the entrepreneur earns a money profit, and otherwise, a monetary loss. Hence "the real entrepreneur is a speculator, a man eager to utilize his opinion about the future structure of the market for business operations promising profits. This specific anticipative understanding of the conditions of the uncertain future defies any rules and systematization. It can be neither taught nor learned. . . . [The entrepreneur] sees the past and the present as other people do; but he judges the future in a different way" (Mises 1949, 585).

Mises does not explain in detail the specific means by which the entrepreneur judges the future, but he alludes, both in *Human Action* and in *Theory and History* (1957), to a kind of verstehen by which the entrepreneur attempts to understand the motives of the human actors who will determine the success or failure of a business venture (i.e., future potential consumers, rivals, partners, regulators, etc.), just as the historian attempts to understand events of the past—not only by looking at quantitative data, but also by applying praxeological

economic theory and by seeking to apprehend the motivations, beliefs, and interpretations of the human actors in question (what Mises calls "thymology"). Hence Mises (1957, 320) refers to the entrepreneur—more generally, acting man in the face of uncertainty—as the "historian of the future" (Topan, McCaffrey, and Foss 2022).

This process of attempting to grasp the uncertain future has been called "intuition," "gut feeling," "understanding," and "appraisement" (in the context of market prices). Mises, like Frank Knight (1921), calls it "judgment," and thus the strand of entrepreneurship literature building on these ideas has been termed the "judgment-based approach" (Casson 1982; Klein 2008; Foss and Klein 2012, 2015; Klein and McCaffrey 2022). The judgment-based approach views entrepreneurship as decision-making under uncertainty (what Mises calls "case probability") without a formal model or decision rule, as would be appropriate for decision-making under probabilistic risk ("class probability") (Klein 2009). Moreover, the entrepreneur's judgment is manifest not in acts of pure alertness or discovery (Kirzner 1973, 1997), but in owning, combining, and deploying productive resources under conditions of uncertainty. Thus Mises's concept of entrepreneurship is inextricably linked to ownership: "A capitalist is always also virtually an entrepreneur and speculator. He always runs the chance of losing his funds. There is no such thing as a perfectly safe investment" (Mises 1949, 254).

What exactly do these capitalist-entrepreneurs own? How do they exercise the ownership function? Are some more effective owners than others? Ownership typically refers to a bundle of legally or socially recognized rights including the right to use assets, the right to exclude others from using these assets, the right to buy and sell (or give away) assets, and the right to delegate use rights to nonowners on a contingent or temporary basis. Note that ownership is thus associated with *residual* control over resources, which is not the same as *proximate* control (Hart 1995). Residual control is the right to determine how the resource will be used in conditions not specified by prior agreement. Under probabilistic risk—a situation in which, by assumption, all possible contingencies can be specified ex ante and assigned probabilities—use rights can be partitioned ex ante, and ownership serves no economic function (Klein 2009). Ownership only matters under conditions of case probability (in which events are heterogeneous such

that probabilities, as limit frequencies in a series of repeated trials, do not exist) or Knightian uncertainty (in which the set of possible outcomes cannot be specified ex ante).[2]

Mises (1949, 678) describes ownership as "full control of the services that can be derived from a good," by which he means the human actions that involve the use of the asset or resource.[3] A nonowner can have limited, contractually specified, use rights, but only the owner has the full set of rights (including the right to delegate proximate rights to nonowners). Put differently, under uncertainty, owners exercise "original" entrepreneurial judgment while nonowner employees can only exercise "derived" judgment, that is, can exercise delegated use rights that are derived from the rights of the owners (Foss, Foss, and Klein 2007).[4] In Rothbard's (1962, 1277) words, "Ownership is the ultimate control and direction of a resource. The owner of a property is its ultimate director, regardless of legal fictions to the contrary."

Mises's understanding of the difference between residual control and day-to-day oversight is clear from his critique of market socialism in *Human Action*. Market socialists such as Oskar Lange, Abba Lerner, and Frederick Taylor, while agreeing with Mises that a price system was necessary for effective resource allocation, argued that the state could own the means of production while tasking hired managers to act as if they were owners of factories, farms, shops, and so on. Mises points out that the market socialists misunderstand the nature of the economic problem, which is not how to set production levels to equate marginal revenue and marginal cost at given prices. "The

[2] For various interpretations and treatments of case probability and Knightian uncertainty see Klein (2009); Packard, Clark, and Klein (2017); and Townsend et al. (2024).

[3] Nominal private ownership but de facto state control, as under fascism ("socialism of the German kind"), does not constitute real private ownership, as the nominal owners lack this "total control." In this system there are "no longer entrepreneurs, but only shop managers" (Mises 1949, 713).

[4] In Ludwig Lachmann's (1956, 99) terminology, owners are "capitalist-entrepreneurs," while nonowner managers or employees are "manager-entrepreneurs"; he writes that "the only significant difference between the two lies in that the specifying and modifying decisions of the manager presuppose and are consequent upon the decisions of the capitalist. If we like, we may say that the latter's decisions are of a 'higher order.'" Eugene Fama and Michael Jensen (1983) distinguish similarly between "decision management" and the owner's "decision control," which involves choosing managers, delegating authority to them, and monitoring their behavior and outcomes.

cardinal fallacy implied in this and all kindred proposals is that they look at the economic problem from the perspective of the subaltern clerk whose intellectual horizon does not extend beyond subordinate tasks." The owner's task, by contrast, is "the allocation of capital to the various branches and production" and "altering this structure in order to adjust it to changes in conditions" (Mises 1949, 703). This task takes place mostly in equity markets, in which the allocation of capital across firms and industries, and across capitalist-entrepreneurs, is determined (Klein 1999).

Despite growing recognition in the entrepreneurship, finance, and strategic management (but not economics) literatures of the importance of ownership, less is known about the circumstances under which particular owners will exercise the ownership function effectively. When Mises refers to entrepreneurs judging the future, he means the formal act of exercising judgment (i.e., deploying resources under conditions of uncertainty in pursuit of future monetary profits).[5] This has led to some confusion, as the English word "judgment" often connotes wisdom or prudence or deliberate, systematic analysis (Sarasvathy and Dew 2013; Hunt and Lerner 2018). But judgment includes making sound as well as unsound judgments (Foss and Klein 2015, 591–92). Indeed, when Mises uses the term "market process," he doesn't mean the process of converging toward an equilibrium price (the interpretation given by Kirzner); instead, he is referring to the process of competition among entrepreneurs: "If a businessman does not strictly obey the orders of the public as they are conveyed to him by the structure of market prices, he suffers losses, he goes bankrupt, and is thus removed from his eminent position at the helm. Other men who did better in satisfying the demand of the consumers replace him" (Mises 1949, 270). In other words, market competition can be understood as a process in which entrepreneurs compete by acting upon judgments about the uncertain future; those with better judgment will tend to earn profits and expand their operations, while those whose judgments are less accurate will earn losses and eventually be forced out of the market.

[5] This is also the way "judgment" is used in the decision-theory and psychology literatures on judgment and decision (e.g., Mellers, Schwartz, and Cooke 1998; Steele and Stefánsson 2020). Judgments can be right or wrong!

The idea of differential judgment ability is also suggested by Alchian (1965, 825), who notes that "people differ in their talents as owners. . . . Ownership ability includes attitude toward risk bearing, knowledge of different people's productive abilities, foresight, and, of course, judgment." Building on this insight as well as Mises's analysis of market competition, Foss et al. (2021) develop a theory of "ownership competence" as distinct from labor productivity or managerial skill.

> We argue that owners vary in the competences with which they deploy the right to use, the right to appropriate, and the right to transfer. We call these competences (a) matching competence (knowing what to own), (b) governance competence (knowing how to own), and (c) timing competence (knowing when to own), respectively. We thus define ownership competence as the skills with which asset owners exercise matching, governance, and timing competence. Ownership competence generates economic value via superior skill about what to own, how to own, and when to own. (Foss et al., 2021, 309)

Under uncertainty, ownership competence can be understood as skilled entrepreneurial judgment. In this sense, market competition can be understood as a process of matching actual ownership with ownership competence—more competent owners (i.e., entrepreneurs making more accurate judgments) will earn profits and be able to expand their capital, owning more assets, while less competent owners (entrepreneurs making less accurate judgments) will find their capital stock dwindling as they earn losses.

One manifestation of superior entrepreneurial judgment is choosing the appropriate form of ownership—for business firms, legal forms such as proprietorship, partnership, family business, cooperative, limited liability company, and so on. Each has benefits and costs in terms of organizational efficiency, governance effectiveness, the ability to engage in (or resist) rent seeking and other forms of nonmarket strategy, and so on. Hansmann (2000) identifies the relative homogeneity of interests among the ownership group as the key determinant of the efficient organizational form. In most cases, he argues, the limited liability or investor-owned firm (he calls it a "lender's cooperative") has significant advantages in that its owners have no relationship with the firm

besides being investors and thus share the same objective: maximizing the market value of their ownership claims. Where owners play multiple roles (for example, a consumer-owned cooperative in which owners are both investors and patrons), differences in objectives lead to substantial collective decision-making conflict.[6] This problem is exacerbated by uncertainty, where a group of owners must coordinate and cooperate to exercise original judgment (Foss and Klein 2018). And talk of an "entrepreneurial state" notwithstanding, it is unlikely that state-owned enterprises, whose "owners" (taxpayers, citizens) are unable to exercise original judgment in a meaningful sense, giving de facto control to bureaucrats and elected officials, will display high levels of ownership competence (Klein et al. 2010, 2013; Murtinu, Foss, and Klein 2022).

When Is Property Private?

If, as Mises claims, private property is the sine qua non of the market economy, how do we analyze systems with fully or partially state-owned businesses and activities, nominally private firms that receive substantial state rewards (or penalties), and other mixed or hybrid institutions? Take colleges and universities, for example. It is common to distinguish formally between public and private universities—the University of Michigan is a public institution, Princeton University a private one. When we look at the details of ownership, control, sources of funds, legal privileges, and the like, however, the situation appears more complicated. In the US, private research universities receive substantial funding—in some cases, the majority of the institution's operating funds—from federal, state, and local governments. Less research-intensive public universities typically receive less federal research funding than the most research-intensive private universities do courtesy of the National Science Foundation, the National Institutes of Health, and similar entities. On the governance side, public universities are typically controlled by a board of regents or curators, most of whom are political appointees placed there to help the university receive government privileges.

[6] Mises (1990b) doubts that cooperatives would exist at all on the free market, attributing their (limited) success to government-granted privileges.

Indeed, contemporary marketlike economies (what Mises classifies as interventionist systems featuring private ownership with "isolated" acts of government interference) include a variety of "hybrid" organizations such as privately owned regulated monopolies (water, gas, electricity, cable), defense contractors and other private firms that mainly serve government clients, publicly owned organizations that mainly serve private clients, various kinds of public-private partnerships, and so on. Are these "private" or "public"? What criteria should we use to determine the publicness of a nominally private institution (or vice versa)? Besides ownership, governance, funding source, clients or customers, and regulation, we might include objectives (profit maximization, stakeholder wealth maximization, manager's utility, some broader social objectives—which differ in their measurability), whether consumption is voluntary or compulsory, whether competition is allowed, how performance is measured, and other criteria.

In "Confiscation and the Homestead Principle," Rothbard (1969) suggests that any private organization—he gives the examples of Columbia University and General Dynamics—receiving more than 50 percent of its revenue from the state should be considered, for analytical (and political) purposes, a public entity. This criterion would render many private organizations, including for-profit firms, nonprofit universities, and charities, de facto public organizations. We would then expect that, even if they have nominally private owners (such as a defense contractor's shareholders), those possessing residual control rights and exercising original judgment are elsewhere—perhaps they are bureaucrats or elected officials.[7]

Mises (1949, 259) points out that public and quasi-public organizations can be considered part of the market to the extent that they purchase inputs and sell outputs on the market, without the ability to confiscate resources or compel purchases. These firms are still "subject to the sovereignty of the market." The case is different with organizations, public or private, that produce goods and services that are not bought and sold on the market. In *Bureaucracy*, Mises (1944) argues that these firms, lacking a profit-and-loss test of performance,

[7] Rothard applies an even looser criterion for private firms that have participated in acts of aggression, giving the example of napalm producer Dow Chemical. "No percentage of sales [to government buyers], however small, can absolve its guilt."

are compelled to organize and manage their activities with a rigid and hierarchical structure that makes them less able to adapt and respond to changes in market conditions. In terms of effective entrepreneurial judgment, neither case is likely to produce firms high in ownership competence. Organizations with complex hybrid ownership structures suffer from the problem identified by Hansmann, while organizations immune from the competitive market test will not grow or shrink according to governance, matching, or timing competence (Foss et al. 2021; Murtinu, Foss, and Klein 2022).

Conclusion

Both property rights and entrepreneurial judgment under uncertainty are central to Mises's understanding of the market. Mises makes it clear that private ownership, as decision control over productive resources, is a prerequisite to the formation of markets, exchange, and the prices that facilitate economic calculation. Yet he does not discuss in detail all the "edge cases" involving the definition of specific assets or resources when ownership is ambiguous. Mises generally specifies de facto residual control, rather than titular ownership (as in the case of factory owners under fascism) or day-to-day control (as in the case of hired nonowner managers), as the hallmark of ownership. In other words, privately owned firms that receive substantial government support in terms of subsidies or other privileges (or even compulsory sales or purchases) are still private firms if owners hold residual control rights. At the same time, the meaning of residual control is ambiguous where the state can explicitly or implicitly compel certain behaviors. While there is some excellent work in the Austrian tradition on the behavior of firms under similar conditions (e.g., Rothbard 1970; Higgs 1987; Ikeda 2015; Bylund and McCaffrey 2017; Newman 2021), there is room for more work on the impact of ambiguous property rights on entrepreneurial judgment and the efficacy of the market for ownership nd control of organizations.[8]

[8] See Cook and Iliopoulos (2000) for an interesting example in the case of cooperatives.

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9

Dualism and Calculation: What Mises Taught Me about Economics and Capitalism

Robert P. Murphy*

Mark Twain reputedly said, "When I was a boy of fourteen, my father was so ignorant I could hardly stand to have the old man around. But when I got to be twenty-one, I was astonished at how much the old man had learned in seven years." I have had a similar experience with Mises's *Human Action*, but with a higher baseline. When I first read it as a senior in high school, I thought it was an amazing work. But each time I *re*read it over the ensuing decades, I was astonished to discover how much more Mises had (seemingly) learned in the interim, not just in economics, but in philosophy, physics, and even mathematics.

In this essay I focus on two key lessons that I have taken from *Human Action* which I did not fully appreciate in my early readings of the great book. Of course, Mises's exposition remained the same throughout, but my own understanding of the underlying issues has deepened over the years. I am now in a position to fully appreciate the significance Mises attached to the two items—to wit: the methodological dualism necessary in economic science and the role of economic calculation in market economies.

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Methodological Dualism

To understand Mises's position on methodological dualism, we must first remind ourselves of his overall framework. Indeed, when I first obtained his book in high school, I wondered, "Why is it called *Human Action*? Why not *Economics* or *How the Market Works?*"

In the very first sentence of the book, published in 1949, Mises explains that economics is "the youngest of all sciences" (Mises 1998, 1). This new science "conveyed knowledge which could be regarded neither as logic, mathematics, psychology, physics, nor biology." This new science ushered in a profound transformation in the study of society:

> The discovery of the inescapable interdependence of market phenomena overthrew [the old normative approach]. Bewildered, people had to face a new view of society. They learned with stupefaction that there is another aspect from which human action might be viewed than that of good and bad, of fair and unfair, of just and unjust. In the course of social events there prevails a regularity of phenomena to which man must adjust his action if he wishes to succeed. It is futile to approach social facts with the attitude of a censor who approves or disapproves from the point of view of quite arbitrary standards and subjective judgments of value. One must study the laws of human action and social cooperation as the physicist studies the laws of nature. Human action and social cooperation seen as the object of a science of given relations, no longer as a normative discipline of things that ought to be—this was a revolution of tremendous consequences for knowledge and philosophy as well as for social action. (2)

Beyond the revolution in the discovery of economics itself was the internal revolution famously dubbed the Marginal Revolution, dating to the independent discoveries in the early 1870s (albeit with different styles of exposition) by Carl Menger, Léon Walras, and William Stanley Jevons of what we now call "subjective marginal utility theory." This theoretical revolution not only overturned the classical cost, or objective, theory of value, but it expanded the frontiers of the science:

> For a long time men failed to realize that the transition from the classical theory of value to the subjective theory of value was

> much more than the substitution of a more satisfactory theory of market exchange for a less satisfactory one. The general theory of choice and preference goes far beyond the horizon which encompassed the scope of economic problems as circumscribed by the economists from Cantillon, Hume, and Adam Smith down to John Stuart Mill. It is much more than merely a theory of the "economic side" of human endeavors and of man's striving for commodities and an improvement in his material well-being. *It is the science of every kind of human action*. Choosing determines all human decisions. In making his choice man chooses not only between various material things and services. All human values are offered for option. All ends and all means, both material and ideal issues, the sublime and the base, the noble and the ignoble, are ranged in a single row and subjected to a decision which picks out one thing and sets aside another. Nothing that men aim at or want to avoid remains outside of this arrangement into a unique scale of gradation and preference. The modern theory of value widens the scientific horizon and enlarges the field of economic studies. *Out of the political economy of the classical school emerges the general theory of human action, praxeology.* The economic or catallactic problems are embedded in a more general science, and can no longer be severed from this connection. No treatment of economic problems proper can avoid starting from acts of choice; economics becomes a part, although the hitherto best elaborated part, of a more universal science, praxeology. (Mises 1998, 3; emphasis added)

Thus we see why Mises titled his book *Human Action*, even though it was (as the subtitle informs us) a treatise on economics. When the subjective, marginal utility revolution transformed the economists' explanation for market prices, the new architecture was a general theory of choice per se, not simply "economical" choices. And it was this new framing—of economics' being a subset of praxeology—that crystallized the need for *methodological* dualism.

To see why, let us first quote Mises's elaboration on what "human action" entails: "Human action is purposeful behavior. Or we may say: Action is will put into operation and transformed into an agency, is aiming at ends and goals, is the ego's meaningful response to stimuli and to the conditions of its environment, is a person's conscious adjustment to the state of the universe that determines his life" (11). Although the definition of "human action" as "purposeful behavior" is

straightforward, there is a wealth of significance packed into this two-word combo. I can illustrate with a trivial example: Suppose you, the reader, see my hand move to a bottle of water, my fingers curl around it, my arm move to bring the bottle to my lips, and my head tilt back as the water flows into my open mouth.

You might explain such observations by saying, "He was thirsty." Notice how many assumptions are packed into that statement. In the first place, to talk in this manner reflects the observer's decision to invoke *a subjective will* that somehow adds to our understanding of an event. This is not at all how the *natural* scientist proceeds—she doesn't "explain" a waterfall by saying, "The ground was thirsty."

Beyond this, to describe my scenario with the statement "He was thirsty" also suggests that this subjective will—which has the desire to quench thirst—also has a *theory of cause and effect* about how to quench thirst. In other words, the observer of a man drinking water assumes that the man understands *why* this means will satisfy his desired end.

Third, the explanation assumes that the intangible, psychic will has the *ability to influence the material world*. In our specific example, saying "He was thirsty" only makes sense if we assume that I somehow control my fingers, arm, and mouth.

To reiterate, there is an obvious sense in which these remarks are trivial. Yet the underlying issues are incredibly profound, even though in our everyday life we take them for granted. Removed from our current context, if I were to announce, "I can control matter with my mind!" I would be dismissed as an unscientific charlatan. But if you watch my hand move a bottle of water to my lips and observe, "He was thirsty," you are implicitly assuming that my mind *can* control matter, at least to some extent.

Two Separate Realms

Mises highlighted the qualitative gulf between the subjective world of the mind and objective world of matter: "Reason and experience show us two separate realms: the external world of physical, chemical, and physiological phenomena and the internal world of thought, feeling, valuation, and purposeful action. No bridge connects—as far as we can see today—these two spheres. Identical external events result sometimes in different human responses, and different external events

produce sometimes the same human response. We do not know why" (Mises 1998, 18).

After this humbling admission—which holds to this day, despite the progress that has been made in neuroscience—Mises declared: "In the face of this state of affairs we cannot help withholding judgment on the essential statements of monism and materialism. We may or may not believe that the natural sciences will succeed one day in explaining the production of definite ideas, judgments of value, and actions in the same way in which they explain the production of a chemical compound as the necessary and unavoidable outcome of a certain combination of elements. In the meantime we are bound to acquiesce in a *methodological* dualism" (18; emphasis added).

In the quotation above I have stressed the word "methodological." Mises was *not* taking a stand on whether humans "really" have disembodied egos (not to speak of souls) that somehow interact with our physical bodies, or whether consciousness is merely a "user illusion" that will one day be dropped from the toolkit of the social scientist. Mises was simply arguing that for the present, the economist must proceed *as if* these are two distinct realms, because in the arena of market phenomena, the analyst cannot possibly proceed by reference to blind, mechanical processes devoid of subjective minds. An engineer or an architect could make many interesting statements concerning the laws of mechanics in reference to the New York Stock Exchange, but the *content* of the exchange's activities can only be described by first postulating the existence of other minds.

Hans Hoppe on Mises's Contribution

In his *Economic Science and the Austrian Method*, Hans Hoppe credited Mises's action axiom as the fulfillment of Kantian epistemology:

> It is true, as Kant says, that true synthetic a priori propositions are grounded in self-evident axioms and that these axioms have to be understood by reflection upon ourselves rather than being in any meaningful sense "observable." Yet we have to go one step further. We must recognize that such necessary truths are not simply categories of our mind, but that our mind is one of acting persons. Our mental categories have to be understood as ultimately grounded in categories of action. And as soon as this is recognized, all idealistic suggestions immediately disappear.

> Instead, an epistemology claiming the existence of true, synthetic a priori propositions becomes a realistic epistemology. Since it is understood as ultimately grounded in categories of action, the gulf between the mental and the real, outside, physical world is bridged. As categories of action, they must be mental things as much as they are characteristics of reality: *For it is through actions that the mind and reality make contact*. (Hoppe 2007, 20; emphasis added)

It would perhaps be too bold to conclude that Mises had *solved* the mind-body problem, but as Hoppe's remarks underscore, his praxeological framework at the very least shines a spotlight on the issue and links the two realms in its very essence.[1]

Economic Calculation Underpins Civilization

It is well known that Mises (starting with a 1920 article written in German[2]) launched a withering critique of socialism that culminated in a full-blown debate including Hayek and Lionel Robbins versus socialist theorists. To understand the problems facing a socialist central planner is the flip side of appreciating the role that calculation plays in *solving* that problem in a market economy.

So if we want to understand why so few economists grasped the problems with socialism as Mises did, we can simply link it to their failure to understand *money prices*. In other words, it is no coincidence that Mises (2009), in part 2, chapters 1 and 2, of his 1912 *Theory of Money and Credit*, gave a satisfactory explanation of the valuation of money, and then went on to pen his critique of socialism in 1920 (as discussed more fully below). Only an economist who understood at a deep level the connection between subjective preferences and objective money prices would be in a position to articulate the fundamental weakness of socialism.

[1] As I explain in Murphy (2023), I myself did not fully appreciate the philosophical significance of the action axiom until reading Hoppe's analysis.

[2] Mises's (1935) critique of socialism was translated into English and published in Hayek's (1935) collection.

Mises himself recognized the connection between the various strands of his thought when he wrote, referring to the German-language predecessor to *Human Action*: "My *Nationalökonomie* finally afforded me the opportunity to present the problems of economic calculation in their full significance. . . . Only in the explanations offered in the third part of my *Nationalökonomie* did my theory of money achieve completion. Thus I had accomplished the project that had presented itself to me thirty-five years earlier. I had merged the theory of indirect exchange with that of direct exchange into a coherent system of human action" (Mises 2013, 111–12).

Specifically, economic calculation allows an entrepreneur to evaluate whether an operation—be it an entire firm or merely one of its divisions or even product lines—is creating outputs that are more valuable than the resources it uses. In order to have a "common denominator" the inputs and outputs must all trade against a common item—namely, money.

To drive home just how much significance he attached to his concept of "economic calculation," Mises argued that civilization itself rests upon it: "Our civilization is inseparably linked with our methods of economic calculation. It would perish if we were to abandon this most precious intellectual tool of acting. Goethe was right in calling bookkeeping by double entry 'one of the finest inventions of the human mind'" (Mises 1998, 231).

Pushing more deeply, we can see the qualitative hurdle that calculation overcomes:

> It was cognition of what is going on within a world in which action is computable and calculable that led men to elaboration of the sciences of praxeology and economics. *Economics is essentially a theory of that scope of action in which calculation is applied or can be applied if certain conditions are realized. No other distinction is of greater significance, both for human life and for the study of human action, than that between calculable action and noncalculable action. Modern civilization is above all characterized by the fact that it has elaborated a method which makes the use of arithmetic possible in a broad field of activities.* This is what people have in mind when attributing

> to it the—not very expedient and often misleading—epithet of rationality. (200; emphasis added)

To reiterate, only an economist who had started from "ground zero" and considered the implications of subjective value theory—of an individual preferring *a* to *b*—and then built upon that foundation, could be in a position to fully appreciate the subtle yet crucial service that money prices perform.

Misesian Calculation versus Hayekian Knowledge[3]

To amplify the interpretation of the previous section, we can observe that even within the ranks of self-described Austrian economists, the Misesian emphasis on calculation can be misunderstood. An excellent illustration is the conflation of the (Misesian) "calculation problem" of socialism with the (Hayekian) "knowledge problem." Although the two concepts are related, and each is an important flaw in socialism, it is important not to lump them together and argue that Mises and Hayek "were saying the same thing" in their arguments with the socialist theorists.

Specifically, the Hayekian knowledge problem flows from the inability of central planners to access the dispersed expertise among the members of society, including not just technical experts but also the "man-on-the-ground," localized knowledge specific to an individual factory or warehouse. Moreover, some types of knowledge are tacit—such as knowing how to ride a bicycle—and cannot be articulated into words and conveyed to a central committee.

Yet as important as Hayek's insights are in order to understand the *practical* impossibility of rational resource allocation with political central planning, such considerations are *not* what Mises had in mind with his own case. For the sake of argument, Mises stipulated at the start of his demonstration that the hypothetical socialist planners would not only be committed to the commonweal, but also have access to all of the relevant engineering and other facts needed to determine

[3] The material in this section draws upon my online article "Socialism: The Calculation Problem Is Not the Knowledge Problem" (Murphy 2018), which itself relies heavily on my journal article "Cantor's Diagonal Argument: An Extension of the Socialist Calculation Debate" (Murphy 2006).

what combinations of goods and services were technologically *possible* to produce, given the available resources. Thus, for the sake of argument, Mises assumed away the problem of corruption and any Hayekian knowledge problems:

> The director wants to build a house. Now, there are many methods that can be resorted to. Each of them offers, from the point of view of the director, certain advantages and disadvantages with regard to the utilization of the future building, and results in a different duration of the building's serviceableness; each of them requires other expenditures of building materials and labor and absorbs other periods of production. Which method should the director choose? He cannot reduce to a common denominator the items of various materials and various kinds of labor to be expended. Therefore he cannot compare them. He cannot attach either to the waiting time (period of production) or to the duration of serviceableness a definite numerical expression. In short, *he cannot, in comparing costs to be expended and gains to be earned, resort to any arithmetical operation*. The plans of his architects enumerate a vast multiplicity of various items in kind; they refer to the physical and chemical qualities of various materials and to the physical productivity of various machines, tools, and procedures. But all their statements remain unrelated to each other. *There is no means of establishing any connection between them*. (Mises 1998, 694; emphasis added)

As the quotation above makes clear, Mises assumed that the various technological trade-offs would be known to the director. Nonetheless, Mises argued that because they would lack private property in the factors of production, the socialist rulers would have no genuine market prices to guide their evaluation of possible plans. Even ex post, the planners would have no way of objectively assessing whether their orders to every member of society had involved an efficient use of resources. We can see this clearly in his reaction to the "trial and error" suggested solution for socialist planning:

> The entrepreneurs and capitalists do not have advance assurance about whether their plans are the most appropriate solution for the allocation of factors of production to the various branches of industry. It is only later experience that shows them after the event whether they were right or wrong in their enterprises and

> investments. The method they apply is the method of trial and error. Why, say some socialists, should not the socialist director resort to the same method? The method of trial and error is applicable in all cases in which the correct solution is recognizable as such by unmistakable marks not dependent on the method of trial and error itself. If a man mislays his wallet, he may hunt for it in various places. If he finds it, he recognizes it as his property; there is no doubt about the success of the method of trial and error applied; he has solved his problem. . . .
>
> Profit tells the entrepreneur that the consumers approve of his ventures; loss, that they disapprove. The problem of socialist economic calculation is precisely this: that in the absence of market prices for the factors of production, a computation of profit or loss is not feasible. (700–701)

Even within the historical socialist calculation debate itself, the *opponents* of Mises and Hayek certainly noted the distinction in their respective positions. After Mises's (1935) initial salvo (in a 1920 article in German), H. D. Dickinson in 1933 argued that Mises had overstepped. *In principle* the central planners could devise an efficient use of society's resources, *given* the production functions, consumer preferences, and available stocks of labor, land, etc. After all, mathematical economics had shown how such elements could be used to determine a competitive equilibrium in a model of a market economy, and so there was no logical roadblock to central planners using the same approach for a socialist economy. As Dickinson (1933, 238) put it, "It is the object of this article to refute the first of Mises's criticisms of socialism and to show that a rational pricing of instrumental goods is at least theoretically possible in a socialistic economy."

In response, Hayek (1935, 207) conceded that this "mathematical solution" from Dickinson (and other socialist economists) "is not an impossibility in the sense that it is logically contradictory." Yet Hayek still thought the appeal to a system of simultaneous equations in a Walrasian framework wasn't answering Mises's challenge, because "what is practically relevant here is not the formal structure of this system, but the nature and amount of concrete information required if a numerical solution is to be attempted and the magnitude of the task which this numerical solution must involve in any modern community" (208).

As I say, the socialist opponents were quick to interpret Hayek's response as a partial retreat to a more defensible position. In his 1936 rebuttal, Oskar Lange first paid mock homage to Mises (saying the Central Planning Board in a socialist state should erect a statue of the Austrian) for putting his finger on a legitimate issue which previous socialist writers had failed to appreciate. However, Lange thought that the strong version of Mises's challenge had been met. When considering Hayek's response to Dickinson and other proponents of the mathematical solution, Lange wrote: "Thus Professor Hayek and Professor Robbins [in their emphasis on the staggering number of equations necessary to actually implement the mathematical solution] have given up the essential point of Professor Mises' position and retreated to a second line of defence. On principle, they admit, the problem is soluble, but it is to be doubted whether in a socialist community it can be solved by a simple method of *trial and error*, as it is solved in the capitalist economy" (Lange 1936, 56; emphasis in original). Although I am of course sympathetic to the Mises/Hayek/Robbins side in this grand debate, I can find no fault in Lange's commentary on this specific point. He is correct; Hayek *was* retreating from the strong version of Mises's original claim.

To distinguish between Misesian calculation and Hayekian knowledge, I like the framing Joe Salerno gave in a 1994 reply to Leland Yeager, who himself had argued that *if* Hayek's knowledge problems could be solved, *then* a central planner could rely on a supercomputer to efficiently allocate resources, just as economists do in their models of a market economy. Salerno responded:

> As [Salerno, Murray Rothbard, and Jeffrey Herbener] have repeatedly emphasized, the Misesian demonstration of the logical impossibility of socialism is not predicated on the central planners' incapacity to perform tasks that can conceivably be carried out by individual human minds (e.g., discovery of factual and technical knowledge, mathematical computations, managerial monitoring, and prevention of labor shirking, etc.). Rather, it is concerned with the lack of a genuinely competitive and social market process in which each and every kind of scarce resource receives an objective and quantitative price appraisement in terms of a common denominator reflecting its relative importance in serving (anticipated) consumer preferences. This social

> appraisement process of the market transforms the substantially qualitative knowledge about economic conditions acquired individually and independently by competing entrepreneurs, including their estimates of the incommensurable subjective valuations of individual consumers for the whole array of final goods, into an integrated system of objective exchange ratios for the myriads of original and intermediate factors of production. It is the elements of this coordinated structure of monetary price appraisements for resources in conjunction with appraised future prices of consumer goods which serve as the data in the entrepreneurial profit computations that must underlie a rational allocation of resources. (Salerno 1994, 112)

After quoting from some of his previous work, Salerno stated: "It is obvious from the foregoing passages that *I conceive appraisement as neither knowledge nor arithmetic, but as something new under the sun*, introduced into the world only when the institutional prerequisites of a market economy are fulfilled. The social process of appraising thus transcends the purely individual operations of knowing and computing at the same time that it complements them in creating the indispensable conditions for rational choosing by entrepreneurs and resource owners cooperating in the division of labor" (Salerno 1994, 113–14; emphasis added).

In my view, Salerno has faithfully upheld the Misesian perspective on calculation. The institution of private property in the factors of production, along with the widespread use of a money commodity, allowed for the emergence of something qualitatively new, and not a "mere" repackaging of preexisting information. In my 2018 article on the topic, I motivated the point with the following analogy:

> When we use a thermometer to measure the temperature inside an oven in a commercial bakery, the device transmits information to us. There really is an objective "fact of the matter" of the kinetic energy of the air molecules bouncing around inside the oven, and the thermometer is an imperfect way of translating that data to us, in a form our minds can comprehend and incorporate into our decisions. But there's no doubt that the oven really *has* a temperature, regardless of our measuring it with a thermometer.
>
> In contrast, when we ask, "How much *economic value* does the oven possess?" then that is a fundamentally different question.

> This isn't an objective fact that is embedded in the arrangement of matter. The question takes into account all of the subjective preferences of everyone on the planet, as well as their expectations about the possibility of transforming matter into different forms. It is a mind-boggling question, in fact, that can only be *answered* by setting up a market economy and then making informed guesses as to what people would be willing to pay for the oven. (Murphy 2018)

Conclusion

In summary, among other contributions we can credit Mises in *Human Action* for bridging two pairs of seemingly isolated concepts. First, in the context of the action axiom and Mises's advocacy of methodological dualism, Mises bridged subjective teleology and mechanical operations, or what can be distilled as the mind-body problem.

Second, in the context of his critique of socialism and his emphasis on the importance of monetary calculation, Mises showed how the myriad ordinal preference rankings of individuals can be amalgamated into objective social appraisals for which cardinal numbers—and hence arithmetical operations—are applicable.

To this day, most economists aren't even *aware* of such nuanced distinctions. Not only was Mises aware of the subtle problems involved, but in *Human Action* he showed the economist how to solve them.

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10

There's Many a Slip 'twixt Cup and Lip

Jonathan Newman

Ludwig von Mises was a true genius, and we can certainly see that on display in his magnum opus, *Human Action*. The book is cohesive, thorough, and systematic, and yet every page is pregnant with opportunities for scholars to expand and clarify. One of the dominant themes of *Human Action* is Mises's careful delineation of the proper method of economics. The subject matter of economics is purposeful human action, not the unmotivated behavior of atoms, rocks, and stars, and this distinction has important implications for the ways we can make sense of the world. In *Human Action*'s chapter 6, titled "Uncertainty," Mises applies this distinction to the ways we deal with the future.

While it does not appear in this chapter, Mises (1998, 254) uses the phrase "There's many a slip 'twixt cup and lip" at one point in *Human Action* to refer to the inherent uncertainty in all action. Since all action aims at the attainment of an end in the future, all action is inherently speculative. Even actions that are the most immediately realizable, like bringing a cup to one's lip for the sake of quenching thirst, involve some amount of hazard that the desired end will not be attained. Moreover, he says, the uncertainty of the future is a praxeological category—it is impossible to conceive of action in a world of perfect certainty: "If man knew the future, he would not have to choose and would not act. He would be like an automaton, reacting to stimuli without any will of his own" (105).

Methodological Dualism and Class versus Case Probability

Mises explains that there are two reasons why the future is inherently unpredictable: (1) we do not have complete knowledge of the natural realm, and (2) we cannot predict with certainty what humans will choose (105). The subject matter of these two "spheres" is categorically different, which implies that different methods are suitable for understanding them. We can use repeated experiments to discover regularities in natural phenomena, but the lack of any constant relations in human action renders this method inappropriate for economics and the social sciences. Purposeful human action—that is, the use of means to attain ends—may be studied using the logic and categories of action, but the lack of any purpose within the elements of the natural world renders praxeology unsuitable as a method for studying atoms, rocks, and stars. This methodological dualism, according to Mises, extends to the very nature of probability: "There are two entirely different instances of probability; we may call them class probability (or frequency probability) and case probability (or the specific understanding of the sciences of human action). The field for the application of the former is the field of the natural sciences, entirely ruled by causality; the field for the application of the latter is the field of the sciences of human action, entirely ruled by teleology" (107).

Class probability involves extensive knowledge about a class of events but virtually no knowledge about the particular events except that they belong to the class (107). Mises has in mind the problems of the natural sciences or of games of chance involving physical objects like dice. In these arenas, what we know about the outcome depends on the behavior and interaction of physical objects and materials. With a certain arrangement of gears of different sizes, the engineer can know with practical certainty how many times one gear will turn given the number of turns of another gear. Or a gambler can know with practical and quantifiable certainty the probability that a particular number will be rolled in a game involving dice. The gears and the dice behave according to the laws of physics, but the engineer and the gambler exert different levels of control over the outcome. Class probability applies to both, even though the engineer designs

the mechanisms in such a way as to achieve an outcome with virtually 100 percent certainty.

"The gambler," according to Mises, "knows nothing about the event on which the outcome of his gambling depends. All that he knows is the frequency of a favorable outcome of a series of such events, knowledge which is useless for his undertaking. He trusts to good luck, that is his only plan" (112). While still operating in the realm of class probability, "the engineer, on the other hand, knows everything that is needed for a technologically satisfactory solution of his problem, the construction of a machine" (112). The engineer, however, cannot escape "the element of gambling present in human life" (112). Even so, "as far as some fringes of uncertainty are left in his power to control, he tries to eliminate them by taking safety margins. The engineer knows only soluble problems and problems which cannot be solved under the present state of knowledge" (112). The engineer's knowledge is made up of technological relationships that may be explained in terms of class probability. The expectation of the regular behavior of his materials is based on his past observations or on the laws of physics, which were discovered by repeated experimentation. He knows how to apply the appropriate forces to his materials in the appropriate directions to achieve the desired outcome. The gambler, on the other hand, is not allowed to exert such control over the outcome in a fair game. The probability of the desired outcome approaches 100 percent for the engineer, but not for the gambler.

Regarding "the element of gambling present in human life," Mises provides some interesting examples: lightning strikes and viper bites. Mises says, "Life itself is exposed to many risks. At any moment it is endangered by disastrous accidents which cannot be controlled, or at least not sufficiently. Every man banks on good luck. He counts upon not being struck by lightning and not being bitten by a viper" (112). The behavior of the weather and animals is not determined by human action (usually), and so the extent that humans are exposed to such events constitutes gambling.[1] Even taking out insurance policies is a gamble, because the insured "banks upon the opposite chances" (112).

[1] Humans may train animals to behave in a certain way, as Mises acknowledges in his discussion of betting on a horse race, which he considers a hybrid case of gambling

Case probability is very different. When actors deal with a unique event that is determined by many variables (some of which are unknown to the actor) and cannot be put into a class except by itself, then the probabilities cannot be quantified except by recourse to metaphorical language. Actors must speculate about these outcomes using their own judgment, but there are still varying levels of control that actors may attempt to exert on the outcome. Case probability especially applies to events that are determined by human action.

Mises offers social engineering as an example of high (attempted) control over the actions of individuals:

> Like planning, this term ["social engineering"] is a synonym for dictatorship and totalitarian tyranny. The idea is to treat human beings in the same way in which the engineer treats the stuff out of which he builds bridges, roads, and machines. The social engineer's will is to be substituted for the will of the various people he plans to use for the construction of his utopia. . . . If this were feasible, then of course the social engineer would not have to bother about understanding other people's actions. He would be free to deal with them as technology deals with lumber and iron. (113)

The social engineer attempts to bring about a desired outcome by forcing people to behave in a certain way. Mises sees the engineer and the social engineer as having parallel tasks: one manipulates mindless materials, and the other manipulates human persons.

When actors do not attempt to exert such control over other individuals, they are in the position of the pure entrepreneur: "In the real world acting man is faced with the fact that there are fellow men acting on their own behalf as he himself acts" (113). Mises refers to this activity as "speculation": "The necessity to adjust his actions to other people's actions makes him a speculator for whom success and failure depend on his greater or lesser ability to understand the future.

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and speculating since the outcome is determined by both human and nonhuman factors. I suspect that Mises would provide a similar caveat for human attempts at controlling the weather, such as "cloud seeding." The best evidence for this is that Mises included as examples of purposeful action "magical rites" (37) that primitive men performed in attempt to cause rain or increase the fertility of the soil and therefore increase their harvest.

Every action is speculation. There is in the course of human events no stability and consequently no safety" (113).

"Modes of Dealing with the Future"

While Mises lists gambling, engineering, and speculating as "three different modes of dealing with the future" (112), his inclusion of a discussion of the social engineer implies *four* modes of dealing with the future. We may depict these modes in the 2 × 2 typology shown in table 1.

Table 1. Mises's four modes of dealing with the future

	High (attempted) control	No/limited control
Nonhuman determinants	**Engineering** *Examples: building a machine, constructing a building to withstand weather*	**Gambling** *Examples: dice, roulette, lightning strikes, and viper bites* (112)
Human determinants	**Social engineering** *Examples: business and employment contracts, totalitarianism, interventionism*	**Speculating** *Examples: investment, entrepreneurship, all action*

Dealing with the future involves varying levels of control over two categories of things that determine the outcome of human activity. When we "operate only within an orbit of certainty," making use of known technological relationships, we are Mises's engineer. When we subject ourselves to an outcome determined by "noncontrollable natural events" or to the roll of the dice, we are gambling. We are speculators when we subject the success or failure of our actions to other people's actions, which we do not control. Finally, when we do attempt to control other people's actions, we are Mises's social engineer.

Mises's discussion of the social engineer is undoubtedly negative, especially from the viewpoint of a reader who, like Mises, holds to classical liberalism. But we can extend this mode of dealing with the future on purely descriptive grounds, in the same way Mises described the intentions and activities of the engineer, gambler, and

speculator. We can include more inoffensive examples of exercising influence over what other people do, such as persuasion, marketing, and designing contracts.

Interestingly, Mises discusses situations in which these modes of dealing with the future overlap. For example, someone who bets on the outcome of a horse race incorporates his understanding of both human and nonhuman factors:

> Sometimes betting and gambling are combined. The outcome of horse racing depends both on human action—on the part of the owner of the horse, the trainer, and the jockey—and on nonhuman factors—the qualities of the horse. Most of those risking money on the turf are simply gamblers. But the experts believe they know something by understanding the people involved; as far as this factor influences their decision they are betters. Furthermore they pretend to know the horses; they make a prognosis on the ground of their knowledge about the behavior of the classes of horses to which they assign the various competing horses. So far they are gamblers. (116)

Thus, betting on a horse race and similar endeavors that involve the actor exercising no control over an outcome that is codetermined by human and nonhuman factors would fit between the two right quadrants in table 1.

This opens the door for us to consider other areas of overlap. Of course, the level of attempted control over the outcome can vary, whether the objects of control are human or not. Consider an inventor in his laboratory trying different combinations of chemicals or mechanisms without knowing exactly what the outcome will be or even what the practical use of his project will be once he does complete it. Many technological innovations, like pacemakers, superglue, and penicillin, were developed by accident. These situations would fit between the two upper quadrants.

In the realm of human action (the two bottom quadrants), there is also a spectrum of attempted control between pure speculation without any effort to influence others and violent totalitarianism. Persuasion and marketing are in this middle area. When dealing with the anticapitalist critics of advertising, Mises notes, "It is a widespread fallacy that skillful advertising can talk the consumers into buying everything

that the advertiser wants them to buy" (317). Advertising, therefore, does not exert total control over the buying decisions of consumers. Much more control, but still not to the extreme of unilateral threats of violence, is exercised in contracts, when two or more parties stipulate obligations for each other and provide for consequences if those obligations are not met.[2]

A little creativity is required when considering examples that represent overlap between the two left quadrants. Here, the actor would be exercising a high level of control over an outcome that is codetermined by human and nonhuman factors. One possibility is project management, in which the manager seeks to combine land, labor, and capital to achieve a certain production objective. Other examples may include military strategy, theater or live music productions, or sports. In these examples, the person designing, conducting, or coaching the activity attempts to control both human and nonhuman factors to achieve a desired outcome.

How Do We Deal with How We Deal with the Future?

The reader might wonder about the relevance of this categorization for economics. What do we gain by categorizing human activity into these four modes and their overlapping areas? I offer two points: (1) it helps us identify the proper method for making sense of the world, and (2) it helps us parse entrepreneurial functions (i.e., the "pure entrepreneur" versus the "entrepreneur-promoter").

Methodological Implications

This fourfold categorization of human activity helps us identify which method is most appropriate for understanding a particular activity. When human action is a determinant of a future outcome, class probability and the laws of nature will have limited application. As such, quantitative methods are ill suited for economics, analyzing the entrepreneur, or predicting human behavior with certainty. This realization immediately casts into doubt the modus operandi of mainstream economics.

[2] I am indebted to Professor Hülsmann for this point.

Consider, for example, the way Paul Samuelson (1983, 504) approaches the topic of "probabilistic choice": "If you use probabilities in an optimizing procedure, these are your *personal* or *subjective probability* concepts. (Of course, you may think that they really have an 'objective' basis. Maybe you're even right in this thought.) Once you embrace more-probable and less-probable *qualitative* concepts—it's 'more likely' to rain in April and in June—if you go on to commit yourself to various 'consistency' axioms, you will find that your *qualitative personal probabilities* begin to combine in exactly the same manner that the mathematicians' deductive combinatorials and measure-theoretic magnitudes do."[3]

While Samuelson uses the example of the likelihood of rain in April and June, which can be expressed in terms of class probability according to Mises, Samuelson goes on to treat all probabilistic choice in this way. There is no room for case probability in Samuelson's exclusively mathematical treatment of all economic problems.

Samuelson proceeds by taking "as a given of the problem your probability distribution for the different outcomes" (504) and then provides a litany of mathematical expressions to summarize the whole of probabilistic choice. For Samuelson, all uncertainty regarding the future can be modeled in this way.

However, such quantitative methods are appropriate only for the natural sciences, engineering, calculating probabilities for games of chance, and some aspects of the business of insurance. In these realms, classes of events can be identified and controlled experiments can be repeated. The elements are merely reactive and, given the forces that determine their behavior, cannot choose to behave in a different way.

Mises's categorization allows us to select the appropriate method for making sense of different human activities. The engineer employs the laws of physics to his task—there is no room for teleology to inform his expectation regarding gear ratios, for example. It would be absurd for him to think in these terms: "This gear *wants* to turn the other gear."

[3] While Samuelson uses the example of the likelihood of rain in April and June, which can be expressed in terms of class probability according to Mises, Samuelson goes on to treat all probabilistic choice in this way. There is no room for case probability in Samuelson's exclusively mathematical treatment of all economic problems.

The gambler would commit a similar error in thinking the dice *intend* to yield a certain probability density function over a large number of rolls. However, when other people's choices are a determinant of an outcome, then teleological explanations are appropriate. Praxeology is teleological, but only encompasses action as such, in a universal and time-invariant way. If the observing social scientist wants to make sense of a particular action, then understanding is required.

In our day-to-day lives we often take actions that do not fit squarely into one of the four "pure" categories. This is why Mises allows for a variety of methods of making sense of the world: "The scope of understanding is the mental grasp of phenomena which cannot be totally elucidated by logic, mathematics, praxeology, and the natural sciences to the extent that they cannot be cleared up by all these sciences" (50). Understanding, in the Misesian sense, involves "filling in the gaps" regarding definite actions, including the means employed and the ends sought by the actor. Praxeology encompasses human action per se, and so cannot be used exclusively by the historian to make sense of past actions or by the entrepreneur to speculate about future market conditions. To do those things, we must make use of our own experience and intuition to form opinions about what people desire, what people know and expect, and what resources people have at their disposal.

Entrepreneurial Functions

Mises's modes of dealing with the future also shed light on the functions of the entrepreneur. The "pure entrepreneur," which only exists as an imaginary construct, is in the bottom right quadrant in table 1. Salerno (2018) summarizes Mises's view of the pure entrepreneur:

> [The pure entrepreneur], according to Mises (1998, pp. 253–254) is not a human actor but a single "definite function" that is embodied in "an imaginary figure" who is "propertyless" and whose only function is to bear risk. As such, for Mises the pure entrepreneur is a "methodological makeshift" designed to enable the economist to analytically isolate profit (and loss) from the interest earned on capital, both of which are inextricably bound together in the net income received by business owners and investors in the real world. . . . Indeed, Mises (pp. 254, 302)

> pointed out that it is not possible to think through the concept of a pure entrepreneur who owns no capital to a logical conclusion and he explicitly warned against the "error" of confusing the pure entrepreneur with the entrepreneur "in a living and operating market economy." (Salerno 2018, 195)

The pure entrepreneur does not own, arrange, advertise, manage, or design anything. He merely subjects himself to uncertain future market conditions, but due to the contrived nature of the construct, he can only earn profits and never suffer losses.[4] The sole purpose of the construct, much like the evenly rotating economy, is to help economists separate, conceptually, profit from interest.

In the real world, entrepreneurs own, arrange, advertise, manage, and design, while also bearing the uncertainty of the future. Mises used the term "entrepreneur-promoter," though readers may also be familiar with Murray Rothbard's (2009, 509 et passim) similar "capitalist-entrepreneur" in *Man, Economy, and State*. Salerno (2018, 194) describes this real-world actor: "In sharp contrast, Mises's entrepreneur-promoter is a real actor who owns capital and puts it at risk by purchasing factors of production that he judges are undervalued relative to the prospective value of the future product they will yield. He is then obliged to efficiently combine these factors according to a technical plan in a time-consuming productive venture that he must oversee to completion."

Thus, entrepreneurial activities that extend beyond the lower right quadrant are the basis for "ownership rents," or income attributable to the "choosing and combining [of] the concrete elements of their property into an integrated structure of means in order to achieve their ends" (Salerno 2018, 198). Rothbard (2009, 602–3) dubs this income the "rent of decision-making ability" and explained that it stems from the owner's "ultimate responsibility and control of production." Hired managers cannot relieve the capitalist-entrepreneur from this function because it is the capitalist-entrepreneur who selects the

[4] "Such an entrepreneur would, in fact, be an employee of the capitalists who speculates on their account and takes a 100 per cent share in the net profits without being concerned about the losses" (Mises 1998, 254).

managers, which means the hiring decision itself represents a part of the entrepreneur's decision-making function.

When the entrepreneur hires laborers, the labor contracts are designed in such a way to influence the behavior of the laborers, and this belongs to the overlapping area between the two bottom quadrants. When the entrepreneur incorporates the probability of natural events and their influence on revenues and costs, this belongs to the overlapping area between the two right quadrants. When the entrepreneur engages in pure project management or hires managers to oversee the productive resources of the firm in order to achieve certain production objectives, this represents the overlap between the two left quadrants. Entrepreneurs may also hire pure engineers or scientists in research and development, who engage in activities in or near the top left quadrant. All of these activities require skills that go beyond the mere bearing of uncertainty and therefore result in income for the real-world entrepreneur beyond pure profit and loss.

Kirzner's Pure Entrepreneur

Israel Kirzner, one of Mises's students at New York University, offers an alternative theory of entrepreneurship that has proven influential in Austrian literature. Kirzner (1973, 85–86) holds up Mises's ideas as an inspiration for his own theorizing but acknowledges some important differences. While contrasting his view of the entrepreneur with Mises's, Kirzner states, "My discussion of entrepreneurial alertness has deliberately avoided emphasizing its speculative character. I have of course recognized that in a world of uncertainty every entrepreneurial decision, no matter how much alertness it reflects, must to some extent constitute a gamble. But it has been my purpose to point out that the entrepreneur's decision—despite its unavoidably speculative character—represents his judgment that an opportunity for profit *does* exist" (86). For Kirzner, the pure entrepreneurial function is alertness to profit opportunities. It is noticing a discrepancy between buying prices and selling prices. The time between these two actions (buying and selling) and the inherent uncertainty of future market conditions are not important for the Kirznerian pure entrepreneur.

Kirzner's entrepreneur does not fit into the 2 × 2 typology of modes of dealing with the future, and one important reason for this

is that, for Kirzner, entrepreneurship is not a mode of dealing with the future (in fact, it is not a mode of action, nor does it involve future events). Mises described different activities from the perspective of the human actor and his position regarding a future outcome. The modes are differentiated by the actor's attempted level of control over the future outcome (high or low) and by the nature of the determinants of the future outcome (nonhuman or human). Kirzner's entrepreneur, however, is alert to a *present* and *known* profit opportunity, and any time-consuming aspect of harnessing that known profit opportunity is production, not entrepreneurship. His ten-dollar bill example puts this in high relief: "Entrepreneurship does not consist of grasping a free ten-dollar bill which one has already discovered to be resting in one's hand; it consists in realizing that it is in one's hand and that it is available for the grasping" (47).

It is true that one can find certain quotes in Mises's *Human Action* that correspond to Kirzner's view. For example, Mises (1998, 325) says, "Certainly the market that catallactics deals with is filled with people who are to different degrees aware of the changes in data and who, even if they have the same information, appraise it differently. The operation of the market reflects the fact that changes in the data are first perceived only by a few people and that different men draw different conclusions appraising their effects." Even here, however, we see that Mises has coupled *awareness* (Kirzner's "alertness") with *appraisement* or judgment as inextricable components of entrepreneurial action. And Mises begins the next paragraph emphasizing the inherently speculative character of entrepreneurship: "The driving force of the market process is provided . . . by the promoting and speculating entrepreneurs" (325).

There are a few shortcomings that arise from narrowly focusing on the mere perception of a profit opportunity and neglecting the appraising and speculating aspects of entrepreneurship. For example, it is difficult to explain entrepreneurial losses in the Kirznerian framework (Klein 2010, 29–30). If entrepreneurship is in essence being alert to profit opportunities, then what explains entrepreneurial losses? In the Misesian view, losses are explained by the fact that entrepreneurs must speculate about uncertain future outcomes. Realizing profits

also requires action and investment, not just noticing an arbitrage opportunity, but Kirzner's pure entrepreneur does not act or invest. In Kirzner's defense, Klein (2010) notes that Kirzner's goal was not necessarily "to characterize entrepreneurship *per se*, but to explain the tendency for markets to clear" (102).[5] Finally, it should be noted that Kirzner identifies alertness as the essential characteristic of the pure entrepreneur—he acknowledges that real-world entrepreneurs differ from this "ideal type" (Klein 2010, 105n5).

Both Mises and Kirzner attempt to conceptually isolate the pure entrepreneurial function for the sake of economic analysis, and in the process Kirzner distills a much narrower ideal type than Mises does. Mises's pure entrepreneur is in the lower right quadrant of table 1, speculating about future market conditions. Kirzner's pure entrepreneur is not a mode of dealing with the future, and so is not represented in the 2 × 2 typology or in the overlapping scenarios. Mises, moreover, acknowledges that certain absurdities follow when tracing out "the imaginary construction of a pure entrepreneur to its ultimate logical consequences" (254). Immediately preceding this warning is Mises's clear definition of the essence of entrepreneurship and our titular phrase: "The term entrepreneur as used by catallactic theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action. In using this term one must never forget that every action is embedded in the flux of time and therefore involves a speculation. The capitalists, the landowners, and the laborers are by necessity speculators. So is the consumer in providing for anticipated future needs. There's many a slip 'twixt cup and lip" (254).

Thus, there are inherent, but not insurmountable, difficulties in the economist's task. As a branch of praxeology, economics seeks to explain the real world using the logic of action, but praxeological categories like time, causality, uncertainty, and perception are bound up in all action. Isolating the praxeological source of entrepreneurial profit and then relating it to real-world phenomena requires care and humility. There are dangers in overapplying probabilistic risk, as

[5] It seems, however, that annihilating arbitrage opportunities requires action, not merely noticing their existence.

Samuelson attempted, and there are shortcomings in restricting the entrepreneur to the point where he is no longer an actor, as Kirzner's treatment has revealed.

The Lasting Fruitfulness of *Human Action*

In these few pages of *Human Action*, Mises carefully categorizes the modes of dealing with the future. These categories involve a distinction between phenomena that are determined by physical laws and phenomena that are determined by human action. Mises also comments on the level of control the actor believes he has over the outcome. These distinctions have important methodological implications and help us conceptually disentangle the pure entrepreneur from other entrepreneurial functions.

Unlike the economists devoted to quantitative methods and mathematical models of human action, Mises had humility about what economics and praxeology can say with certainty and what other methods can allow us to say about how the world works. Mises's humility and careful observance of the boundaries of economics, however, did not handicap his project. It allowed him to construct a powerful and epistemologically sound system—a system that has proven to be amazingly fruitful not just for Mises, but for other scholars in Mises's time and for those who continue to build on this foundation even today. For that reason, *Human Action* is an incredible gift for which we should be grateful.

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11

Mises and Rothbard on Credit Contraction during a Downturn

Patrick Newman

The seventy-fifth anniversary of Ludwig von Mises's *Human Action*, published in 1949, is an important milestone. Very few economics books are remembered, let alone read, after three-quarters of a century. *Human Action* is one of those rare exceptions, as Mises's ideas and theories continue to resonate with each new generation of thinkers interested in how the market economy works. The praxeological edifice laid out in *Human Action* has been modified and refined by subsequent generations of Austrian economists, but there is no question that as a foundation it has stood the test of time. All successful improvements in Austrian economics since Mises have come from building upon something written in *Human Action*.

In this essay I will highlight one such scientific development in Austrian economics by first explaining Mises's theory of credit contraction during the business cycle and then explaining how his foremost follower, Murray Rothbard, improved it.[1] Mises was criticized by his contemporaries for opposing the prevailing economic orthodoxy by arguing that credit contraction during a downturn is less harmful than

[1] For previous analyses of Mises's and Rothbard's theories of credit contraction, see Bagus (2003, 20–21, 24–25), Horwitz (2010), Huerta de Soto (2009, 450–52), Newman (2014, 478–79; 2016, 390), and Salerno (2010, 278–94).

the credit expansion that caused the boom. Then Rothbard refined his mentor's theory by showing that credit contraction can actually provide economic benefits by speeding up the recovery process. It does so by encouraging the correction of relative prices and the reallocation of resources away from unprofitable malinvestments. Rothbard's theory of credit contraction, though different from what Mises wrote, should be viewed as a complement that advanced Austrian business cycle theory (ABCT).

The structure of this essay is as follows. The first section outlines the theories of time preference–induced growth and credit-induced boom and bust insofar as is necessary to explain Mises's views on credit contraction during the depression phase. The second section then explains Mises's theory of credit contraction, and the third section shows how Rothbard built upon Mises's theory and improved it. The final section concludes by summarizing the significance of *Human Action* and the process by which improvements have been made upon it.

The Austrian Theory of the Business Cycle

Mises's business cycle theory is arguably the distinguishing feature of Austrian economics. ABCT integrates the theories of entrepreneurial market adjustment, nonneutral money, the structure of production, and the deleterious consequences of government intervention into a coherent explanation of how a central bank's expansionary monetary policy causes an unsustainable boom that leads to an inevitable bust. Mises provided his most in-depth exposition of ABCT in chapter 20 of *Human Action* (Mises 1998, 535–83). Before doing so, however, he outlined his capital and interest theory to explain how an economy could grow in the absence of credit expansion.

According to Mises, an individual's time preference is the premium they put on satisfying a given end in the present over satisfying that same end in the future, which means that "present goods are more valuable than future goods" (481). Time preference also means that there is a premium on present money that can be spent on consumption over future money that will be earned from investing. Individuals will save and forgo present consumption only if they expect to earn a greater amount of money in the future. When an individual chooses to "invest a sum of 100 dollars available today," he requires a greater

amount of money, say "104 dollars a year later." The 4 percent interest rate is proof of "the higher valuation of present satisfaction as compared with later satisfaction" (483).

Individuals' time preferences determine the societal rate of interest, which Mises calls the "originary interest" rate. Originary interest is the underlying difference between "the prices of consumers' goods [and the money] apportioned to the various complementary factors cooperating in their production" (521). Originary interest, in other words, is the "margin between the prices of present goods and those of future goods," or the spread in their prices (533). The rate of the price spread at every stage of production is the originary interest rate.[2] The rate of interest found in the loanable funds market, or what Mises later calls the "gross market rate of interest," is commonly believed to be the fundamental interest rate (538). But the loanable funds market only "adjusts the rate of interest on loans to the rate of originary interest" (524).

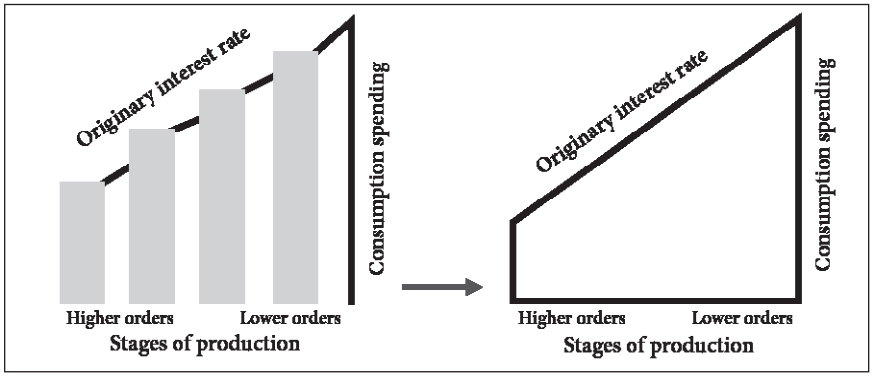
According to Mises, "Changes in the originary [rate] of interest and in the amount of saving are . . . two aspects of the same phenomenon" (530). Lower time preferences are expressed through a decrease in consumption spending, an increase in savings and investment, and a decline in the originary interest rate, while higher time preferences cause the opposite. The consumption-to-investment ratio and in turn the originary interest rate direct "the investment activities of the entrepreneurs [and] the length of waiting time and of the period of production in every branch of industry" (529). Due to the nature of present value discounting, lower originary interest rates increase the relative profitability of long-term production processes, while higher originary interest rates reduce their profitability.

Mises's analysis is depicted graphically in figure 1. While Mises himself eschewed graphical analysis, F. A. Hayek (2008, 223–52), writing in 1935, and Murray Rothbard (2009, 367–451, 509–55), writing in 1962, greatly improved the exposition of capital and interest

[2] In the real world a price spread always includes profit or loss, meaning that "originary interest can therefore in the changing economy never appear in a pure unalloyed form" (Mises 1998, 531). But if the economic data (preferences, resources, and technology) remained constant, entrepreneurial arbitrage would eliminate profits and losses, thereby equalizing all price spreads and establishing the originary interest rate in every production process.

theory through their structure-of-production diagrams. In figure 1, the horizontal axis shows the stages of production and the process of entrepreneurs transforming capital goods as they move from the higher-order stages (i.e., those production processes temporally remote from consumption) through the lower orders until they are sold as consumer goods. The shaded bars represent the money spent on factors of production, and the diagonal lines connecting them represent the originary interest rate.[3] This diagram can be simplified in the trapezoid shown on the right, with the area equal to total nominal spending.

Figure 1. The structure of production



If societal time preferences decrease, economic growth and rising living standards follow. When individuals save, they either directly invest in a business or lend money on the loanable funds market. Funds saved through the second method are borrowed by entrepreneurs at a lower loan rate and invested in production processes that were not profitable at the previous loan rate.[4] Although nominal spending

[3] Each bar includes the money spent to purchase the capital goods produced in the previous stage and the new expenses made on land and labor to further transform the capital goods. As the price spreads are the difference between the total sum spent on factors of production and the revenue earned from selling the produced capital goods, the lines do not connect to the top of each bar.

[4] This is because, before the increase in the supply of loanable funds, the loan rate was higher than the rate of return that could be earned by investing in said production processes.

remains constant, the decrease in the proportion of consumption-to-investment spending reduces the demand for factors of production in the lower orders and increases the demand for factors in the higher orders. This spurs entrepreneurs to reallocate factors. Factor prices fall in the lower orders and rise in the newly-embarked-upon long-term production processes, decreasing the price spreads and the originary rate of interest. The lower originary interest rate is then transmitted back to financial markets. As the changes in spending streams filter down to the incomes of capitalists, landowners, and workers, these individuals continue to spend according to their lower time preference ratios, which sustains the reconfiguration in the production structure. In the end, the increased supply of "capital goods accumulated by new savings . . . increase[s] the . . . supply of consumers' goods," causing a fall in their prices and thereby raising real wages and living standards (Mises 1998, 292).

Figure 2. Time preference–induced growth

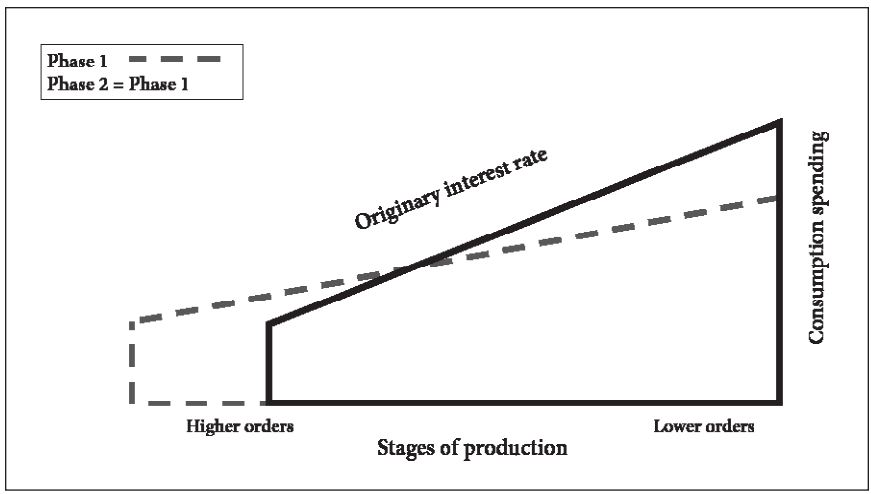


Figure 2 shows the effects of decreasing time preferences. In phase 1, time preferences fall, which decreases consumption spending and flattens the production structure as less money is spent in the lower orders. In turn, the increase in investment spending raises spending in

the higher orders, which lengthens and further flattens the structure of production. The result is smaller price spreads in the stages and a lower originary interest rate. The total area of the new production structure is the same as the old, to reflect the constant amount of nominal spending. In phase 2, because time preferences remain permanently lower, the consumption-to-investment proportion remains the same and the structure of production continues along its current growth path.

The situation, as Mises explains, is very different in the case of credit expansion caused by a central bank's expansionary monetary policy. This is inflation, defined here as a "monetary expansion," and it leads to a nonneutral adjustment process that raises prices in a step-by-step fashion according to how the new money is spent (410).[5] In one of his more memorable passages, Mises emphasizes how "credit expansion is the government's foremost tool in their struggle against the market economy. . . . It is the magic wand designed to conjure away the scarcity of capital goods [and] to lower the rate of interest" (788). But credit expansion cannot eliminate scarcity; it only "temporarily disarranges the congruity between the gross market rates of interest and the rate of originary interest." It sets in motion a modification of the production structure that reverses when "forces come into operation which tend to adjust [the loan rate] to the ratio which corresponds to that of originary interest" (548). Credit expansion does not increase the public's savings.

Under a one-shot credit expansion, the supply of loanable funds increases even though time preferences and savings remain the same. The resultant drop in the loan rate "falsifies the businessman's calculation [because it] make[s] some projects appear profitable and realizable which a correct calculation, based on an interest rate not manipulated by credit expansion, would have shown as unrealizable" (550). As entrepreneurs are misled into embarking upon new long-term production

[5] The short-run and long-run nonneutral adjustment process caused by changes in the money supply is not due to sticky prices. Even if prices flexibly adjust to the new market-clearing levels when the demands for various goods increase, not all prices will increase at the same time, because the monetary expansion initially increases spending only in certain sectors of the economy and then radiates outward. This, not the apparent rigidity of prices, is what causes the crucial disarrangements in relative prices and production.

processes in the higher orders, the structure of production artificially lengthens and the increased investment spending distorts the price spreads downward. Economic growth is stimulated.

However, the inflationary boom cannot continue, because the "consequence of credit expansion is a rise in consumption on the part of those wage earners whose wages have risen on account of the intensified demand for labor" (553). The increased money supply increases nominal spending and incomes, and the higher wages, profits, and salaries are spent according to the public's unchanged time preference ratios. In fact, as Mises explains, time preferences may have risen in the interim because the rising prices can produce "the phenomenon of imaginary or apparent profits" (546). If entrepreneurs use traditional methods of bookkeeping that record factor prices at their historical costs, they will tend to think that their increased revenue from the monetary expansion represents genuine profits, when it will merely cover the increased prices of factors. This causes them to increase their consumption, which ultimately consumes their capital.

In either case—of unchanged or of rising time preferences—consumption spending and consumer prices rise while investment spending falls. This leads to a higher loan rate as entrepreneurs increase their borrowing to pay for the higher costs. "If the credit expansion consists merely in a single, not repeated injection of a definite amount of fiduciary media into the loan market and then ceases altogether, the boom must very soon stop" and lead to a bust "because the increased demand for loans is not counterpoised by a corresponding increase in the quantity of money available for lending" (551). The higher loan rate has revealed the unprofitability of the bad investments in the higher orders, known as malinvestments, and there are not enough savings and capital goods to complete the projects.

During the readjustment period, "which everyday speech calls the depression," entrepreneurs must reallocate factors to shorter production processes that actual time preferences can sustain and cut factor prices in the higher-order stages to make the price spreads accurately reflect the originary interest rate (560). Economic growth declines, resources are wasted or temporarily unemployed, and "the immense majority must foot the bill for the malinvestments and the overconsumption

of the boom episode" (562). The government, in its efforts to increase prosperity, has instead delivered relative impoverishment.

Figure 3. The Austrian theory of the business cycle

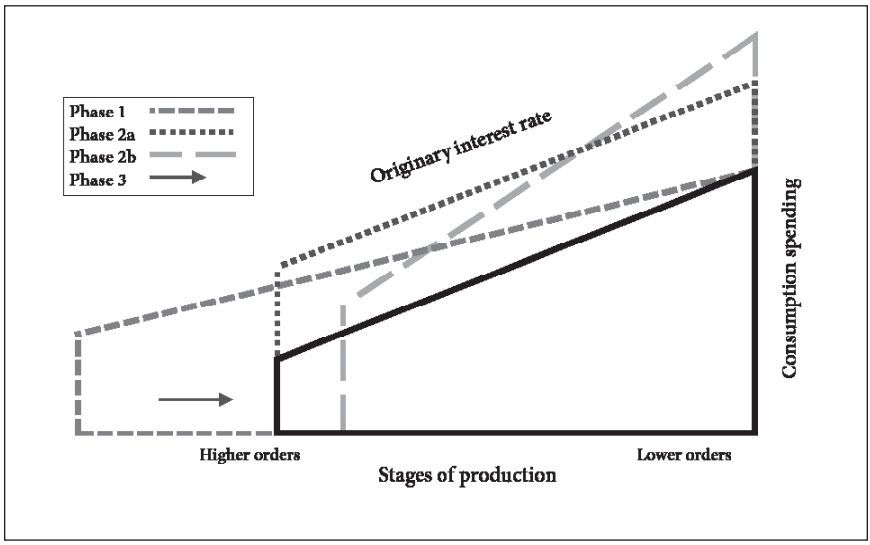


Figure 3 shows Mises's theory of the business cycle. In phase 1, the credit expansion increases nominal spending through new investment in higher-order production processes. This lengthens the structure of production without decreasing consumer spending and narrows the rate of price spread below the originary rate, as demonstrated by the less steep slope. Phase 2 shows the reversal of this process as the public spends their increased incomes according to their actual consumption-to-investment patterns. If time preferences remain the same, then the economy adjusts back to the originary rate of interest and the former production structure at higher spending, as shown in phase 2a. If time preferences increase from capital consumption, then the economy adjusts to phase 2b to reflect an even higher consumption-to-investment ratio and rate of originary interest at the elevated expenditure level. Phase 3 is the depression, when entrepreneurs must abandon the higher-order stages, raise price spreads, reallocate factors, and reconfigure the production structure to either phase 2a or phase 2b.

Mises on Credit Contraction during the Bust

During the downturn, the mainstream neoclassical prescription is for the central bank to reopen the monetary spigots to resuscitate economic activity. Mises, in contrast, argues that "there is no use in interfering by means of a new credit expansion with the process of readjustment. This would at best only interrupt, disturb, and prolong the curative process of the depression, if not bring about a new boom with all its inevitable consequences" (Mises 1998, 576). The new credit will keep interest rates artificially low, prop up the failing investments, and prevent prices and production from adjusting downward in the higher orders.

Mises's analysis is more complex in the case of credit contraction, when bank runs cause financial institutions to fail and pessimism causes surviving banks to curtail their loans. This decreases the money supply, also known as deflation, which lowers nominal spending and prices. Mises believed that credit contraction and deflation would cause only a temporary shortening of the structure of production that was inherently less harmful than the artificial lengthening caused by the prior credit expansion and inflation.

Mises's scenario is as follows. The decrease in the supply of loanable funds causes "a temporary tendency toward a rise in the gross market rate of interest. . . . Projects which would have appeared profitable before appear so no longer" because of the higher loan rate. Moreover, the decline in spending sets in motion the step-by-step non-neutral adjustment process, and "a tendency develops toward a fall in the prices of factors of production" as entrepreneurs in the higher-order stages cut down on investment and decrease their demand for factors, thereby raising price spreads and shortening the structure of production. The credit contraction has overshot the originary rate of interest because it caused the rate of price spread and the loan rate to be higher than what time preferences determine. "Thus," Mises concludes, "a cash-induced rise in the gross market rate of interest produces a temporary stagnation of business. Deflation and credit contraction no less than inflation and credit expansion are elements disarranging the smooth course of economic activities, and sources of disturbance" (564).

If the scenario ended there, one might think that Mises was in line with consensus thinking. But he then states that "it is a blunder to look upon deflation and contraction as if they were simply counterparts of inflation and expansion" (564). Not only are they less politically popular, "they are less disastrous also on account of their inherent effects." Credit expansion artificially lengthens the structure of production and misallocates factors to the higher orders while individuals are consuming relatively more. The boom requires a "tedious process of recovery" where the economy must abandon long-term investments and accept a shorter structure of production and slower growth (565). Credit contraction, on the other hand, only temporarily reduces growth in the interim before relengthening the production structure. This is because time preferences are actually lower than what is implied by the current rate of price spread and the loan rate.

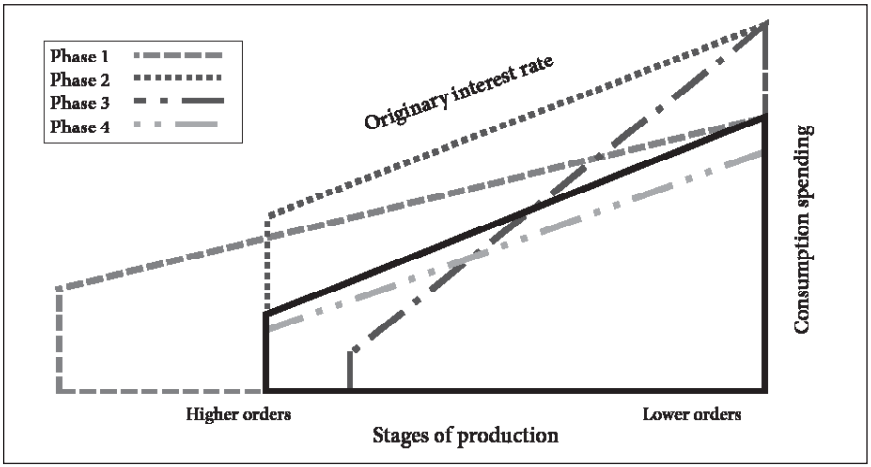
As Mises explains, "The temporary restriction in business activities that [credit contraction] engenders may by and large be offset by the drop in consumption on the part of the discharged wage earners and the owners of the material factors of production the sales of which drop." As "prices and wage rates are by and large adjusted to the" decline in nominal spending, entrepreneurs decrease their demand for loanable funds and "the loan market too adapts itself to the new state of affairs." Whereas the ultimate result of credit expansion is a wastage of savings, credit contraction leads only to their temporary nonuse. Overall, then, credit "contraction produces neither malinvestment nor overconsumption" (564–65).

Figure 4 illustrates Mises's analysis and superimposes the effects of deflation on the prior inflation that was shown in figure 3.[6] Suppose that after the public reasserts its time preference spending patterns in phase 2, a credit contraction occurs. In phase 3, the deflation will lower investment, causing the production structure and spending stream to shrink and the price spreads to increase. The production structure is shorter and the rate of price spread is higher than what time preferences would determine. However, once the reduced nominal spending filters down into lower nominal incomes, the public reasserts their actual and lower time preference ratios. The result, phase 4, is that consumption

[6] For graphical clarity, the potential outcome of phase 2b from figure 3 is not shown in figure 4; phase 2 is only phase 2a.

spending drops, investment increases relative to phase 3, and the production structure relengthens. The rate of price spread declines back to the originary rate at the reduced level of nominal spending.[7]

Figure 4. Mises's theory of credit contraction



Mises's remarks on the inappropriateness of governments expanding credit during the recovery process and the less harmful nature of credit contraction were considered backward by contemporary economists. Seymour Harris, a prominent Keynesian professor at Harvard University, commented in a review of *Human Action* that "deflation, the declining phase of economic activity[,] has no terror for our author. . . . Mises welcomes the deflation or bloodletting stage of business activity" (Harris 1949, 31). Mises had, however, not advocated credit contraction during the downturn. It was one of his students who would do that.

Rothbard on Credit Contraction during the Bust

In the 1950s, Murray Rothbard was working on two projects related to Misesian economics and ABCT. The first, *Man, Economy, and*

[7] For a very different view of deflation from an Austrian perspective that uses the structure-of-production framework, see Horwitz (2006, 177–81; 2014, 147–50).

State (Rothbard 2009), published in 1962, was a systematic treatise on economic theory along the lines of *Human Action*. One of Rothbard's most important accomplishments was to develop a unified capital and interest theory that integrated Mises's time preference theory of interest with F. A. Hayek's structure of production framework (Salerno 2009, xxvii). The second, *America's Great Depression* (Rothbard 2000), published in 1963, was a book on that downturn between the years 1929 and 1933. Rothbard was enormously influenced by Mises, whom he considered "one of the great teachers of economics, as well as one of the great economists," and acknowledged a "supreme debt" to Mises's "monumental theory of business cycles" (Rothbard 1962, xiii; 2000, v). Mises in turn thought very highly of his young pupil. In a letter of recommendation for Rothbard to receive a research grant to write *America's Great Depression*, Mises said he was "fully convinced that [Rothbard] will one day be counted among the foremost economists. . . . I fully endorse what he says about these matters and I want merely to add that in my opinion nobody is better qualified to perform this job than Rothbard" (Mises 1956, 1).

Yet Rothbard did not confine himself to repeating the words of his mentor. When setting out to write his treatise, Rothbard envisioned that it would contain "considerable elaborations in those areas not developed by Mises [and include] differences from Mises in such areas as monopoly, banking ethics, and government" (Rothbard 1954, 4). In other words, he sought to advance Misesian economics by elaborating on the parts of economic theory Mises did not discuss and revising the theories where he thought they strayed from the correct chain of praxeological reasoning and resulted in error.

Rothbard's goal extended to modifying Mises's theory of credit contraction. In a private review of a manuscript by Hans Sennholz, Rothbard believed that one of its flaws was something "Sennholz shares with Mises: and that is, to regard deflation as just as much of an evil as inflation. I believe that it can be shown that deflation has a great deal of merit" (Rothbard 1960, 2). In truth, as shown above, Mises did not think deflation was as bad as inflation, having written that "deflation and contraction are less likely to spread havoc than inflation and expansion not merely because they are only rarely resorted to. They are less disastrous also on account of their inherent effects" (Mises

1998, 565). Furthermore, Rothbard developed not an entirely new theory of credit contraction but one that built upon Mises's analysis.

In *Man, Economy, and State* and *America's Great Depression* Rothbard showed that Mises's scenario only held some of the time and that in other instances a credit contraction could actually be beneficial by hastening the reallocation process.[8] When Mises's scenario occurs and deflation "overshoot[s] the free-market equilibrium point," it "raise[s] price differentials and the interest rate above" what is consonant with time preferences. But credit contraction "create[s] no malinvestments and therefore does not generate another boom-bust cycle" that requires a painful period of readjustment. There is only a cut "down on higher-order investment [and] a shorter structure than would otherwise be the case." This continues until "owners of original factors, receiving lower incomes . . . spend less on consumption [and] price differentials and the interest rate will again be lowered" (Rothbard 2009, 1006). His exposition of why this kind of credit contraction is less harmful than the credit expansion that preceded it is very similar to what Mises wrote and what is depicted in figure 3.

According to Rothbard, Mises's scenario is not the only one, or even the most likely. Although "the Misesian theorists deplore deflation and have seen no benefits accruing from it[,] . . . deflationary credit contraction greatly *helps* to speed up the adjustment process . . . in ways as yet unrecognized" (Rothbard 2000, 17; emphasis in original). First, Rothbard applied Mises's theory of accounting distortions caused by changes in overall prices. In *Human Action*, after describing capital consumption induced by inflation, Mises briefly mentions that "the same is valid *with the necessary changes* with regard to the analogous consequences and effects of a deflationist or restrictionist movement" (Mises 1998, 547; emphasis added). As these "necessary changes" were left unexplained by Mises, it was up to Rothbard to spell them out and show how credit contraction could increase savings when entrepreneurs see their selling prices and revenue fall while the accounting records fail to show that their costs are also declining. What appears to be a loss may actually be a profit because "assets now cost much

[8] His remarks in Rothbard (2009, 1005–7) and Rothbard (2000, 17–19) are very similar, and the following discussion draws from both.

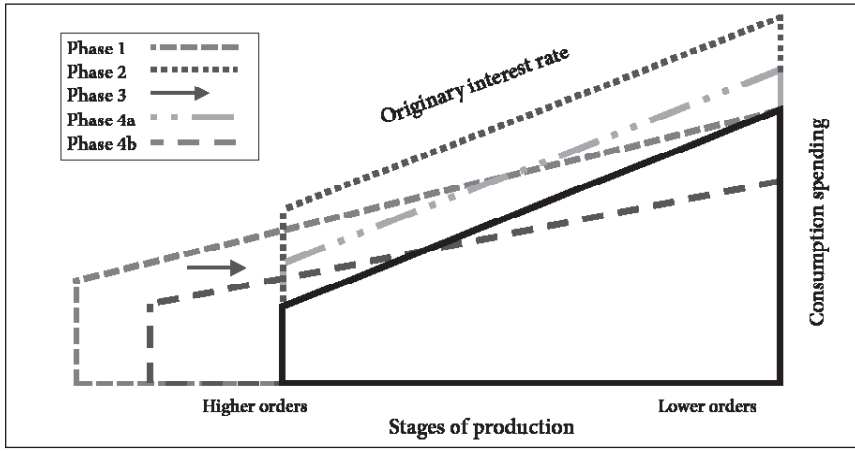
less to be replaced. This overstatement of losses, however, restricts consumption and encourages savings; a man may merely think he is replacing capital, when he is actually making an added investment in the business" (Rothbard 2000, 18). Thus, with deflation-induced capital accumulation during the recovery process, the public will lower their consumption-to-investment spending proportion, meaning that the production structure will not need to contract as much.

More fundamentally, credit contraction, by decreasing investment spending in the higher orders, can adjust the distorted price spreads *to* the originary rate of interest and not always overshoot it, as assumed by Mises. Decreasing the supply of loanable funds "reduces the demand for factors in the higher stages, lowers factor prices and incomes, and increases price differentials and the interest rate. It *spurs* the shift of factors, in short, from the higher to the lower stages" (Rothbard 2000, 18). If the contraction does not overshoot the public's time preferences, then it hastens the liquidation of malinvestments and correction of the price spreads as workers and other factors in the higher stages accept lower price bids and entrepreneurs reallocate them to production processes that the existing supply of savings makes feasible. This "returns the economy to free-market proportions much sooner than otherwise" (18). Thus, by reasoning through Mises's theory and making slight changes to it, Rothbard strengthened the Austrian analysis of the depression phase of the business cycle.

Figure 5 illustrates Rothbard's reasoning. After the public reasserts its time preference spending patterns in phase 2, credit contraction occurs. As shown in phase 3, the deflation begins to correct the economy by decreasing investment. This reduces relative prices and production in those higher-order stages that need to be downsized or abandoned and raises price spreads toward the originary rate. In phase 4a the correction finishes when the public proceeds to spend their lower nominal incomes according to their time preference ratios and the price spreads accurately reflect the originary rate at a lower level of nominal spending. If the credit contraction causes an increase in savings from the accounting illusion, from phase 3 to phase 4b, the structure of production slightly lengthens and the rate of price

spread falls further, meaning that less of the reallocation process and abandonment of the highest-order stages is required. The result in either phase 4a or phase 4b is an economy that has recovered from the depression at a lower level of spending.

Figure 5. Rothbard's theory of credit contraction



It is not known what Mises thought of Rothbard's theory. In later editions of *Human Action* Mises referenced *America's Great Depression* for its analysis of the 1920s boom "in which the upward movement of prices was only slight" (Mises 1966, 561). In a review of *America's Great Depression*, Percy Greaves, a student of Mises, did criticize "Rothbard's predilection for deflation as an antidote for prior politically created inflation" (Greaves 1963, 63), and it was perhaps for this reason that Rothbard considered his theory controversial among Austrians (Rothbard 2006, 252; 2016, 177; see also Ebeling 2006, 585–87; Greaves 1978, xxxiii, xli).

However, Greaves never actually refuted Rothbard's argument that credit contraction could move the economy closer to, and not merely overshoot, the underlying price spreads, as Mises had assumed, and that Rothbard was filling in a gap in Mises's analysis. Regardless of his argument's impact among other Austrian economists, therefore,

Rothbard had succeeded in presenting a more comprehensive view of credit contraction in a downturn that was grounded in the Austrian theory of capital and interest.

Conclusion

Economics books come and go; very few stand the test of time. Ludwig von Mises's *Human Action* is one of the exceptions that prove the rule. The economic theories it describes are pathbreaking for their insights into the crucial mechanisms of the capitalist system. Despite many attempts to take it down, the general edifice of *Human Action* remains impregnable. This does not mean that *Human Action* is the last word in economics or is perfect. But improvements to the praxeological edifice have come from building upon what Mises wrote and not around it.

This is what Murray Rothbard did for Mises's theory of credit contraction during the depression. Mises had stated that even though credit contraction raises the loan rate above the originary rate, it is less damaging than credit expansion because it does not lead to the boom-bust cycle. What Rothbard showed was that this was only one possible scenario and that credit contraction could improve the adjustment process by reducing prices in the higher orders and encouraging the reallocation of factors of production. This is how economic theory progresses, however rare genuine improvements are: through slight changes to what some prior thinker wrote rather than a wholesale reinventing of the wheel. May we all keep this in mind as we reflect on the timeless importance of *Human Action*.

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12

Human Action and the Foundations of Economic Prosperity

Shawn Ritenour

In Ludwig von Mises's intellectual autobiography discussing his life and work in Europe prior to 1940, he reveals that he first read Carl Menger's *Principles of Economics* around Christmastime in 1903. "It was through this book," he relates, "that I became an economist" (Mises 2009, 25). As Guido Hülsmann tells us, before that, in his first years at the University of Vienna, he was schooled in historicism. Mises began his studies "a champion of interventionist statism" (Hülsmann 2007, 80). Although his turn toward free-market classical liberalism was not instantaneous, after reading Menger's *Principles* he would never be the same. I have much the same relationship with the book we are celebrating.

When I encountered Mises's *Human Action* for the first time as a sophomore in college, I was not a historicist, an interventionist, or a statist. My family was a blue-collar family. My dad worked in a meatpacking plant while my mother frugally managed the household budget. Without knowing any formal economic principles, I was practically schooled in comparisons of marginal cost and marginal benefit and maximizing utility per dollar spent every day. With no knowledge of the discipline of economics, I took my first microeconomics course and was immediately impressed with and interested in the sort of questions raised and the sort of analysis undertaken in answering them. I was quickly drawn to economics as a major.

I had lingering doubts, however, about whether economics was rooted in reality or built merely on constructs so artificial that their conclusions were ultimately irrelevant to the real world. While pondering this question, I purchased my first copy of Mises's *Human Action* from the old Conservative Book Club, began to read it, and was delighted to find that there is an economic framework that corresponds to real human action and, hence, is worth devoting my life to studying and teaching. What Menger's *Principles* was for Mises, *Human Action* was to me. It is the book that made me an economist.

From the time I began reading the first pages of *Human Action* I found Mises's entire approach very refreshing. He did not begin by looking at reams of descriptive statistics and gross domestic product, à la Samuelson (1948). He didn't even begin by examining individual markets or the nature of wealth. Instead, he painstakingly laid out the very foundations of economics by examining in detail the nature of human action.

His effort pays significant dividends by keeping his reader from potentially shipwrecking his economics on the rocky shoals of scientism. He refrains from constructing economic theories via abstract modeling built on unrealistic assumptions. He never models people as mere representative agents who are narrowly selfish and who act with perfect information. He does not assume benevolent and omnipotent economic planners. Consequently, the economist building on Mises is not deluded into thinking that economics is about developing elegant mathematical equilibrium models that are irrelevant for the real world of uncertainty in which optimal prices, quantities, firm sizes, and market concentrations are arrived at through the real market process.

Mises also steers clear of positivist nihilism. Mises's foundation allows him to develop economic theorems that are true economic laws rather than hypothetical propositions always subject to being rejected by the next empirical test. The subjects causing all economic phenomena are more than inanimate objects merely reacting to stimuli. They are more than biological creatures driven by instincts. They are human beings engaging in purposeful behavior.

Human Action and the Foundations of Economics

One of the hallmarks of Mises's *Human Action* is its logically consistent, systematic unfolding of economic law from realistic human action.

Better than anyone before him, Mises sets the action of real human beings as the foundation for economic science. The methodological agnosticism of much of modern economics notwithstanding, this is no small matter.

I have long thought that the foundations of economics are of key importance. Twenty-five years ago, in a lecture at a Mises Institute event celebrating the publication of the Scholar's Edition of *Human Action*, I noted that "when a rocket is launched, if its trajectory is off target just a degree or two, it can miss its destination by miles. The same holds true with scholarship. When one sets out on the path of the academic, it is important that he is starting from a firm foundation and that the course is true" (Ritenour 1999). This methodological point is far from being merely academic. The millions who died of starvation and disease under socialist governments are testimony to that (Courtois et al. 1999).

The tragic demise of Robert Franklin Hoxie brings the importance of economic foundations to a very personal level. Hoxie was a labor economist at the University of Chicago from 1906 to 1916 and on the US Commission on Industrial Relations from 1914 to 1915. He was also a devotee of institutionalist Thorstein Veblen. His good friend and colleague Alvin Johnson (1952, 204–7) documents the damage faulty foundations can have for an economist. Johnson (1952, 205) explains Hoxie's economic framework as follows:

> Hoxie loved Veblen with a love that passeth understanding. . . . Hoxie boasted that his whole system of thought came from Veblen. It was Veblen who had taught him that all ideas of reconciling the interests of labor and the employer were a fantastic delusion. For the minds of labor and of the employer were built out of completely different philosophic elements. The philosophy the worker had hammered into him by his job ran in terms of cause and effect—the efficient cause. The employer thought in terms of values, purposes, final causes. As well try to mate a sheep with a tunny fish as try to bring efficient cause and final cause to an agreement.

Hoxie came to understand, however, that Veblen's economics was built on a rotten foundation, and the bad leaven leaveneth the whole lump. Alas, Hoxie was emotionally shattered. Johnson relates that on

one sad day, Hoxie visited New York, to where Johnson had relocated, and asked Johnson to come to his hotel for the evening. Hoxie "was frightening in his appearance." He told Johnson that he was finished. "I can see now, all my work has been bunk. All my writing, every lecture I have ever given, has been bunk." When asked for the reason, Hoxie continued, "I've come to see through Veblen." Hoxie told Johnson he could not understand, "How could a man be so great a scientist and such a damn fool? And the more I thought, the more the idea rode my mind: how great a scientist is he?" Upon more cogitation, Hoxie concluded that "Veblen knew his equations didn't solve, but he used them just the same." This realization was devastating to Hoxie. He told Johnson, "I wouldn't care if it was just the matter of my finding out a phony I had taken for okay. But Veblen has been the premise of all my work. My work is all rotten with Veblenism." Hoxie understood that foundations do, indeed, matter.

Johnson conversed with Hoxie for eight hours, finally sufficiently calming him enough for sleep. Johnson (1952, 207) plaintively closes his narrative by writing "I left him, promising to visit him in Chicago and renew the discussion. But before I could get around to a Chicago trip Hoxie killed himself."

Now, my point is not that economists who do not begin with human action as their foundation will eventually become suicidal. (On the other hand, why risk it?) No, my point is that foundations matter. Hoxie came to just this important realization. He unfortunately could not find a positive way past his epiphany.

The analytical framework Mises perfects and sets forth in *Human Action* is useful for all of economics. It was the economic basis for my first book, *Foundations of Economics: A Christian View* (Ritenour 2010). One of the most important questions students of economics need to answer satisfactorily for themselves is whether the professor of economics is pulling the wool over their eyes. I needed to do so as a student, and I sense my students need to do that as well. They need to apprehend that the laws of economics are actual laws and not merely necessary conclusions implied by artificial constructs dreamed up by academics.

As I note in my *Foundations of Economics*, "The first six chapters of Mises' *Magnum Opus* provide the seminal explanation of the nature of human action and its implication for how we discover

economic truth" (Ritenour 2010, 37). Tying action to our nature as human beings, he defines human action as purposeful behavior (Mises 1998, 11). People must apply means according to their ideas to achieve ends because their means are scarce. We must, therefore, choose to satisfy some ends while leaving others unfulfilled. When acting people choose to do one thing, they are simultaneously choosing not to do something else. This choice requires that we rank our ends, which necessitates preference. Action, therefore, requires valuation, which in turn implies the concepts of benefit and cost, and ultimately profit and loss (97).

Drawing upon Carl Menger (1994, 122–28) and Eugen von Böhm-Bawerk (1959, 135–50), Mises (1998, 119–27) explains that human action implies the law of marginal utility. When applying means, a person values each unit separately. If people can obtain and apply numerous units of the same good to different ends, they will attempt to use the units of the good to satisfy their most highly valued end not already satisfied. This implies that each additional marginal unit of a good will be allocated to a less valued end. Because means are valued according to the value of the ends they serve, the larger the quantity of a good a person has, the less the marginal unit of that good will be valued, because it serves a less valued end. Hence the law of marginal utility: there is an inverse relationship between the quantity of a good and the marginal utility of that good.

The law of marginal utility further implies the laws of demand and supply. Because of the inverse relationship between the quantity of the good and the value of the marginal unit, for a buyer to be willing to buy a larger quantity, the unit's purchase price must be lower. Hence, there is an inverse relationship between the hypothetical price of a good and the quantity of that good buyers are willing to buy.

Likewise, the law of supply is implied by the law of marginal utility. As a seller sells more units of a good, the quantity he still possesses decreases. According to the law of marginal utility, the value of the marginal unit thus increases. Therefore, in order for a seller to voluntarily sell a larger quantity, he requires a higher price for the good. There is, therefore, a direct relationship between the hypothetical price of a good and the quantity of that good sellers are willing to sell.

The point is that in *Human Action* Mises demonstrates that these economic laws are embedded in the nature of man. They are true and

they are relevant wherever and whenever humans engage in purposeful behavior, which is to say everywhere and always.

As I wrote my *Foundations of Economics*, I drew upon numerous additional insights from Mises's *Human Action* about the market division of labor, money prices and economic calculation, time preference and its importance for the formation and maintenance of capital, economic profit and loss and interest, factor price determination, the economics of labor unions, his definitive account of the economic consequences of price controls, and his masterful treatment of the economic problems of socialism (Mises 1998, 157–64, 201–32, 281–91, 330–36, 476–520, 521–34, 685–711, 752–73). Indeed, my entire work was built upon the theoretical foundation of Mises and his student Murray Rothbard. My students have been very thankful to learn that there is a way to discover and systematically arrange laws of economics that are compatible with reality and, therefore, suitable for helping us navigate the economic problems and policy issues that we actually face.

Human Action and the Economics of Prosperity

About eight years after the publication of my first book, I turned my attention toward writing about the nature and causes of economic prosperity. I had been prompted to consider this topic years before by a conversation I had with a graduate student who attended Grove City College's Austrian Student Scholars Conference. He suggested to me that while Austrians have a recognized business cycle theory, they don't have a recognized theory of economic development. His claim was not that we do not have a theory of economic progress, but that it is not recognized as such. After teaching economic expansion and development for about twenty years, my ideas on the subject had been percolating, and I decided to try to articulate a general theory of economic prosperity (Ritenour 2023). I naturally turned to Mises as a starting point in my research.

Mises's thoughts on the process of economic progress are quite important, because of the ad hoc nature of conventional development theory. While modern growth literature has identified several factors correlated with economic progress, there is hardly any explanation of their relation to the process of economic expansion (Ritenour 2023,

4; Gould and Ruffin 1993). Modern growth theory uses an analytical framework that, by and large, fosters neither asking nor answering the right questions.

Modern growth economics relies on mathematical models that suffer from problems of aggregation and serious limitations due to their assumptions. The economic framework and insights of Mises, on the other hand, provide theoretical results pointing to a more robust and relevant theory of economic progress. Mises's causal-realist praxeological approach allows for the development of a more holistic theory of economic expansion and development that, therefore, is more likely to provide helpful policy guidance for purposes of economic progress.

Mises is quite helpful at the beginning of this conversation with his very definition of economic progress. A progressing economy is one in which there is an increase in per capita wealth (Mises 1998, 252). He goes further, however, by helpfully noting its subjective nature. He reminds us that "goods, commodities, and wealth and all the other notions of conduct are not elements of nature; they are elements of human meaning and conduct. He who wants to deal with them must not look at the external world; he must search for them in the meaning of acting men" (92). Wealth, therefore, is not merely stuff. It is economic goods that are subjectively perceived useful to attain ends by people using them. As such, wealth cannot be scientifically measured. That is not to say that we are unable to make any judgment about whether a society has or is enjoying economic progress. It is merely to say that we do this with what Mises (252) calls "historical understanding" and not scientific measurement. We can observe people enjoying the use of more and better goods for lower prices.

The question then becomes, how do we enjoy economic progress thus described? The answer is increases in productivity and the ability to use the fruits of our production according to our subjective purposes.

Mises points us to theory of economic progress in a discussion about whether monetary inflation has historically increased general social welfare: "The question is whether the fall in purchasing power was or was not an indispensable factor in the evolution which led from the poverty of ages gone by to the more satisfactory conditions of modern Western capitalism. . . . What is needed is a clarification of the effects of changes in purchasing power on the division of labor, the accumulation of capital, and technological improvement" (464–65).

Those are the three processes that result in economic progress: expansion of the division of labor, capital accumulation, and improvement in technology.

The Division of Labor

Mises has much to say about all three. The division of labor is a process of specialization of production according to efficiency. By specialization we mean each person producing a particular good or set of goods in excess of his personal consumption. Who specializes in what within the division of labor will be determined by efficiency. The different tasks are taken up by whoever is the low-opportunity-cost producer. Now, Mises was not, of course, the first to recognize the contribution of the division of labor to prosperity. We can go as far back as Plato (1937), who writes in *The Republic* (2.370c), "All things are produced more plentifully and easily and of a better quality when one man does one thing which is natural to him and does it at the right time, and leaves other things." And of course we know that Adam Smith (1937, 3–21) and other classical economists (Say 1964, 90–99; Ricardo 2004, 273–76) recognized benefits of the division of labor.

Mises however, emphasizes several points about exchange and the division of labor that are innovative. One is his expanding of David Ricardo's law of comparative advantage to a full-fledged law of association (Mises 1998, 158–63). It is not only that different countries with different opportunity costs in the production of various goods could benefit from specialization and exchange; what is true of people in different countries is true of everyone, everywhere trade occurs.

While economists call this principle the "division of labor," it actually applies to all factors of production. There is a division of capital goods according to efficiency and a division of land according to efficiency. Each factor of production is efficient in some line of production. As each factor is allocated according to efficiency, people will reap the most output for the resources utilized.

Because exchange opens the door for participation in the market division of labor, Mises further identifies exchange as the basis for society, along the same lines as the French Liberal School (Tracy 1970, 6; Bastiat 2007, 2:83). Mises (1998, 157–58) understands that the division of labor and human cooperation is the fundamental social phenomenon. He sees the division of labor as "the social tie" that, along

with reason and language, is uniquely human (Shenoy 2010, 22). In so doing, he also explicitly rejects social Darwinism as a theory for the development of society (Mises 1998, 175). Society is not a competitive struggle for survival. It is the product of cooperation, not conflict.

Mises (464) understands that the division of labor developed historically over a long period of time. What he desires to investigate is what makes human society possible—that is, what brought about cooperation, society, and civilization. He finds that society is only possible because of the greater productivity of the division of labor and because of people's recognition of this fact (160). Society, therefore, rests on the great variety of different skills and desirability of labor, capital endowments, and available natural resources (144, 160).

The expansion of the market division of labor brings a number of social effects in its wake. As people specialize according to efficiency, the differences leading to the benefits of the division of labor are intensified (163–64). Specialization of production further differentiates geographic regions, enhancing the distinction between rural and urban areas. It results in the collection in different areas of various production operations such as agriculture, manufacturing, mining, and software development.

Importantly, for Mises (144) man's reason is capable of perceiving that participating in the market division of labor is a primary means by which people more fully achieve their ends by serving others. Society, therefore, is the result of human action (Mises 1998, 143, 188; Salerno 1990). Cooperation is a form of action, hence society is the product of purposeful behavior. This prompts Mises to assert that "any given social order was thought out and designed before it could be realized." At the same time, he qualifies this claim by noting that

> this temporal and logical precedence of the ideological factor does not imply the proposition that people draft a complete plan of a social system as the utopians do. What is and must be thought out in advance is not the concerting of individuals' actions into an integrated system of social organization, but the actions of individuals with regard to their fellow men and of already formed groups of individuals with regard to other groups. Before a man aids his fellow in cutting a tree, such cooperation must be thought out. Before an act of barter takes place, the idea of mutual exchange of goods and services must be conceived. It is

> not necessary that the individuals concerned become aware of the fact that such mutuality results in the establishment of social bonds and in the emergence of a social system. The individual does not plan and execute actions intended to construct society. His conduct and the corresponding conduct of others generate social bodies. (Mises 1998, 188)

People act in cooperation to better attain their personal ends. In other words, what they must perceive is how cooperating and working together helps achieve the end. The specific pattern of production and social organization will develop naturally as people specialize according to efficiency. For society to flourish people must recognize that the market division of labor allows us to be more productive, act accordingly, and, importantly, embrace and support the social institutions that make it possible: namely private property and sound money.

Capital Accumulation

The market division of labor is praxeologically linked with the capital structure, which means it is not limited only by the extent of the market, as Adam Smith tells us; it is also limited by the extent of saving and investment. In fact, the division of labor is one reason capital-intensive production is economically possible. It makes no sense to invest in an industrial pizza oven to bake one pizza. In direct-use production, all production processes would be very short. The market division of labor, on the other hand, consists of a multistage, intertemporal structure of production. This structure of production incorporates the structure of economically productive capital goods.

Another set of insights from Mises that forms a large part of the theory of economic prosperity is, therefore, related to the importance of capital accumulation. Mises explains that a progressing economy is actuated not only by an expanding market division of labor, but also by an increase in available productive capital goods (292). Capital goods are produced means of production: the tools, machines, factories, and intermediate goods necessary for making products, be they commodities or services. Indeed, all goods serving the end of generating income contribute to capital by increasing the productivity of the user (261). They enable people to produce a greater quantity of output per unit of land and labor than could be produced without

capital goods. Additionally and more importantly, capital goods allow people to produce a multitude of goods that could not be had at all without them. By increasing our productivity, capital goods advance people in time toward their objective of producing consumer goods.

Before capital goods can be used, however, they must be produced. In order to accumulate capital, therefore, people must be willing to put off present consumption so that they will have resources available to invest in production of capital goods. They must be willing to lengthen the structure of production to include production stages before the stage in which consumer goods are produced. Iron ore must be mined and then refined into steel in order for the steel to be transformed into an oven that can be used to bake a pizza. Because each of these stages requires some amount of restriction of consumption to fund the production of capital goods, as Mises (487) explains, "saving is the first step on the way toward improvement of material well-being and toward every further progress on this way." The increased production that allows for increases in per capita wealth identified as economic progress is the result of an increase in capital per capita, and the investment in the production of useful capital goods is funded by saving and investment.

Given the debates over the relative importance of capital and technology for economic growth (Harrod 1939; Domar 1946; Solow 1957; Easterly 2002, 25–69; Ritenour 2019, 2023, 134–43), another important yet underappreciated contribution in Mises's *Human Action* is his very conception of capital. Mises (1998, 261) conceives of capital as a tool of economic calculation and defines it as the sum of the whole complex of goods destined for acquisition evaluated in money terms. By "destined for acquisition" he means used for production and sale of products. So capital is closely related to the stock of assets owned by the firm. However, that these goods are "evaluated in money terms" makes capital a monetary accounting fund embodied in capital goods. As such, this sum is the starting point of economic calculation. Capital, therefore, is neither merely a fund of investable money nor merely a stock of physical capital goods. As Mises (500) explains, "There is no such thing as an abstract or ideal capital that exists apart from concrete capital goods . . . [C]apital is always embodied in definite capital goods and is affected by everything that happens with regard to them. The value of an amount of capital is a derivative

of the value of the capital goods in which it is embodied." As the value of an entrepreneur's capital goods goes, therefore, so goes his capital.

This helps explain why capital spending per se does not necessarily contribute to economic prosperity. As Mises (295) puts it, "Capital does not 'beget' profit." Investment must be spent accumulating specific capital goods allocated toward the production of specific products that can be sold for a profit, because only then can the capital goods maintain or increase their capital value.

Technological Improvement

In addition to Mises's emphasis on the division of labor and capital accumulation, he also has much to say about the relation of technology to economic expansion and development. He clearly understands that a key source of economic progress was technical improvement (9, 155, 164). It is important to note, also, that Mises knows better than most contemporary development economists that technology is not autonomous. For it to be operationally useful in production, it must be embodied in physical capital goods and production processes.

Mises understands, for example, that technology does not determine the entrepreneur's production technique. Rather, it is his "supply of capital goods available at the moment that determines which of the many known technological methods of production will be employed" (493). Mises asserts that what holds back underdeveloped countries, such as Romania was in the 1800s, is not a lack of technical knowledge, but the quantity of capital goods needed to put the technology into practice. Indeed, because capital is scarce, there is always unused technology that could be applied toward the attainment of some end that must remain unmet because of a lack of necessary capital goods embodying that technology (526). When considering the speed with which a society enjoys the benefits from technical advance, he similarly notes that "what slows down technological improvement is not the imperfect convertibility of capital goods, but their scarcity. We are not rich enough to renounce the services which still utilizable capital goods could provide" (510).

Entrepreneurship

Finally, throughout *Human Action* is the recognition that the market division of labor, capital accumulation and utilization, and

the productive use of technology all require wise entrepreneurial judgment in order for economic progress to result. Entrepreneurship, therefore, is a fourth contributor to economic prosperity. Indeed, all the activity in the market division of labor and capital structure must be coordinated by entrepreneurs.

Economic progress requires wise entrepreneurial judgments across many different margins. It entails decisions about what sort of goods will be demanded in the future, how many of said goods will be demanded, what will be the most profitable type of product, where it is best produced and supplied, and what the optimal scale of operation and the optimal time of availability are, given the above constraints. Entrepreneurs must make many judgments regarding capital investment as well: the optimal capital intensity of the production process, its desired durability, its specificity, and the quantity of capital goods in which to invest.

Likewise, the profitable use of technology in production necessarily requires entrepreneurial decision-making. Mises (106, 301–4, 345–46) notes that the very decision to use technology is entrepreneurial and that it is the entrepreneur who applies technology in production. This requires entrepreneurial judgment because there is no perfect information regarding technology (92–93). Which technology is appropriate depends on circumstances as perceived by the entrepreneur (504–5). Economic calculation, therefore, is just as vital for efficient utilization of technology as it is for the use of factors of production (207–9). Finally, specific actions regarding the magnitude and quality of specific research and development must also be decided upon.

Achieving economic progress is particularly challenging because the profit and loss process in our dynamic economic order is continual. No producer or society can rest on the laurels of past profits.

One of Mises's great achievements is demonstrating that entrepreneurs must use economic calculation if they are to direct factors of production toward their most valued uses (201–32). Market prices allow entrepreneurs to make meaningful comparisons of social value between different consumer and producer goods because money prices are all enumerated in terms of the monetary unit. These comparisons are meaningful and socially beneficial because, in a free society, the objective prices are determined by the subjective preferences of buyers and sellers. When entrepreneurs reap a profit, therefore, they do so

precisely by providing those goods that people value the most in the least costly manner.

These four sources of economic progress—the market division of labor, capital accumulation, technological advance, and entrepreneurship—all must work together synergistically for society to enjoy economic progress and the development of civilization. Expanding the market division of labor requires capital accumulation, and the multitude of decentralized specialized production must be coordinated by entrepreneurs for it to yield an increased quantity and quality of consumer goods people find helpful in serving their ends. Likewise, an extensive capital structure makes possible the market division of labor, and to foster economic progress, capital must be allocated in the right place at the right time. The use of technology in ever-more-specialized machines is also made possible by the division of labor (164), and, as we have seen, technology is only productive when embodied in existing capital goods, so it requires saving and investment to advance and is enhanced by the market division of labor.

Economic progress, therefore, is the happy consequence of a highly developed division of labor taking advantage of an increasing capital stock embodying appropriate technology that is wisely invested by entrepreneurs. This is the process of what Jesús Huerta de Soto (2009) calls "dynamic efficiency." This outcome requires the social institutions of private property and sound money (Mises 1998, 264–66). Because the development of the division of labor is only possible via voluntary exchange, its extension will occur only in a society with institutions supporting voluntary trade. Voluntary exchange requires private property. To take advantage of the division of labor and benefit from the economic development that flows from it, members of society must have the right to property.

Likewise, Mises explains that for capitalists to accumulate capital, they must be secure in their property. If, for example, the state enforces confiscatory taxation, regulation of business, and price controls, capital accumulation is hindered (730–73, 802–7). Taxes reduce both the ability and the incentive to save and invest, while regulations and price controls direct capital away from their most highly valued ends.

The entrepreneur's need for monetary market prices to calculate profit and loss also points to the necessity of private property and sound money. Only voluntary prices are manifestations of the subjective

values of the buyers and sellers in society. Again, voluntary exchange requires private property. Without voluntary exchange there can be neither money nor market prices. Falsification of prices due to monetary inflation at best leads entrepreneurs astray; at worst it leaves them paralyzed (568–83). Without rational economic calculation, economic decision-makers have no way to know how to allocate factors wisely. Capital is consumed, and standards of living fall.

In short, in his great book *Human Action*, Mises lays down the solid foundation upon which sound economics must be built and applies true economic laws toward helping us understand the nature and process of economic prosperity. In so doing, he shows us that the free society—with its private property and sound money—is the vital environment enabling economic progress and thereby encouraging human flourishing.

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13

Human Action: The Antidote to Progressivism

Joseph T. Salerno

Human Action (Mises 1998) is *the* foundational work of modern Austrian economics, and that is reason enough for reading it. But there is an equally compelling reason for carefully studying Mises's great treatise. For it is the antidote to the real and immediate threat to human liberty and society posed by the ideology of progressivism. After the collapse of the Soviet Union and other Communist regimes, almost all variants of leftism abandoned conventional Marxism and gathered under the banner of progressivism. This was especially true in Western countries, where the Left achieved a powerful influence on policy via democratic elections. Indeed, progressivism is far more insidious than Marxism precisely because it rejects class conflict and violent revolution and fervently embraces democracy as the true path to the perfection of humanity. Progressives view history as an onward and upward march to a utopian future, an egalitarian socialist state efficiently run by disinterested bureaucrats, intellectuals, and technocrats (Salerno 2023).

Despite their fervent desire for egalitarian socialism, however, contemporary progressives have learned from the collapse of communism that trying to substitute central planning for the market economy leads to poverty, famine, and economic collapse. They therefore propose to retain a truncated market economy that is heavily taxed, regulated, and controlled. Capitalists and entrepreneurs will be subject to a blizzard

of orders, decrees, and prohibitions and forced to work to support the state apparatus and its financial cronies and official victims' groups. In other words, interventionism, not socialism, is the political economy of progressivism.

1. The Marxist Basis of Interventionism

Mises was one of the first to recognize that the economic program of progressivism was interventionism, as laid out by Karl Marx and Friedrich Engels in the *Communist Manifesto*, published in 1848. As Mises (1974, 99) states, "It is impossible to understand the mentality and the policy of the Progressives if one does not take into account that the Communist Manifesto is for them both manual and holy writ, the only reliable source of information about mankind's future as well as the ultimate code of political conduct" (see also Mises 1990b, 179–86). According to the *Communist Manifesto* the most effective means for achieving the socialist economic utopia is through democracy. As Marx and Engels (1971, 30) proclaim, "The first step in the revolution . . . is . . . to establish democracy." Once established, democracy would "raise the proletariat to the position of ruling class." Political conditions would then be ripe for imposing interventionist measures or what Marx and Engels call "despotic inroads on rights of property." In their own words (Marx and Engels 1971, 30–31), these measures included the following, among others:

- A heavy progressive or graduated income tax.
- Abolition of all right of inheritance.
- Centralization of credit in the hands of the state by means of a national bank with state capital and an exclusive monopoly.
- Centralization of the means of communication and transport in the hands of the state.
- Free education for all children in public schools.

It was not until a decade later that Marx would adopt the contrary view that socialism would inevitably supersede capitalism without the need for mass democracy and interventionist measures. Indeed, the later Marx in 1859 condemned interventionism as "reactionary." Capitalism, he declared, would collapse from its own inner

contradictions, culminating in violent revolution and the dictatorship of the proletariat (Marx 1970; see also Cole 1930, xi–xxix). Any attempts to speed up the coming of socialism by undermining capitalism were, therefore, both unnecessary and counterproductive. So almost from the beginning, there were two contradictory variants of Marxist doctrine. Almost all contemporary progressives have embraced interventionism as the true path to socialist bliss (e.g., Stiglitz 2015, 215–32).

2. Mises's Early Work on Comparative Economic Systems

Human Action is indispensable for comprehending the operation and consequences of interventionism, which is the least understood economic system. The treatise is the culmination of Mises's long-standing research program, which was to analyze and compare the three possible economic systems—capitalism, socialism, and interventionism—from the viewpoint of which best promotes social cooperation under the division of labor. During the 1920s, Mises published three books: *Socialism* (1922), *Liberalism* (1927), and *Critique of Interventionism* (1929). As Mises points out: "Altogether these books offer a comprehensive analysis of the problems of social cooperation. They investigate all conceivable systems of cooperation and examine their feasibility. These studies found their completion in my *Nationalökonomie*" (Mises 1978, 113).

Mises dealt with capitalism in *Liberalism*. Ironically, because *Socialism* was written before *Liberalism*, Mises was forced to analyze the operation of the market economy in *Socialism* to develop the concept of economic calculation, which requires the existence of actual market prices. The concept of economic calculation is essential to evaluating the ability of any economic system to rationally allocate resources. Mises (1978, 111) explains, "When I set out to work further on the ideas in my book, *Socialism*, I felt compelled to develop especially the fundamentals of catallactics. Any theory of socialism that does not have at its very foundation a consideration of the problem of economic calculation, is simply absurd."

In fact, in his earlier treatise, published in 1912 and translated into English in 1934 as *The Theory of Money and Credit*, Mises (1971) was already preparing the way for a comparative analysis of capitalism,

socialism, and interventionism. Indeed, the primary purpose of his monetary treatise was to integrate the theory of money into general economic theory in order to fully explain the determination of *money* prices, which are the data of economic calculation. Prior to Mises's work, almost all economists, including Mises's Austrian mentors Carl Menger and Eugen von Böhm-Bawerk, analyzed the formation of prices within the framework of a fictional barter economy in which the exchange ratios between commodities are determined without the intermediation of money. The absence under barter of a common objective unit in which prices are expressed implies that economic calculation can take place directly in terms of values. But values, Mises argues, are the product of a single individual's mental operation, or "valuation," which consists of subjectively ranking different goods according to their (anticipated) satisfaction. As such, values cannot be added up or compared between different individuals (Mises 1978, 56–57, 59–60). Mises reveals that his theory of money was thus the foundation for his later argument that, without market prices, socialism lacked the means of economic calculation: "The basic thought already appeared in the book on money: there are values and valuations, but no measurements of value and no value calculations; the market economy calculates with money prices" (Mises 1978, 111).

After the completion of his trilogy of works on capitalism, socialism, and interventionism, there was still a crucial element missing from Mises's project to develop an integrated theory of human action encompassing all thinkable economic systems. Mises had not yet fully worked out the theory of economic calculation. He turned to this task in *Nationalökonomie* (Mises 1940), the German language predecessor of *Human Action*. Reflecting later on the main goal of the treatise, Mises (1978, 111–12) writes, "My *Nationalökonomie* finally afforded me the opportunity to present the problems of economic calculation in their full significance. . . . Only in the explanations offered in the third part of my *Nationalökonomie* did my theory of money achieve completion. Thus I had accomplished the project that had presented itself to me thirty-five years earlier. I had merged the theory of indirect exchange with that of direct exchange into a coherent system of human action."

3. The Structure of *Human Action*

In framing economic theory as "a coherent system of human action," Mises demonstrates that research in pure economic theory is indissolubly linked with analysis of alternative economic systems. This insight sheds new light on *Human Action*: it is both a treatise on economic theory and a discourse on comparative economic systems. This becomes clear when we examine the organization of the book. (For the structure and page ranges of the various parts of *Human Action*, see figure 1.) *Human Action* begins with an exposition of praxeology and its unique theoretical research method. Mises uses the "praxeological method" to deduce a system of economic theory grounded in the self-evident truth that every person *acts*—that is, behaves purposefully in using scarce means to achieve his or her most highly valued ends. Furthermore, the being whose action is the subject of economic analysis is not the fictional "economic man" of neoclassical economics possessing perfect knowledge and the other attributes of a dubious economic rationality but "man with all his weaknesses and limitations, every man as he lives and acts" (Mises 1998, 646–47).

By anchoring the deductive method in the undeniable fact that real people act, plus a few subsidiary facts about the real world, Mises establishes that whenever the conditions of action assumed by an abstract economic theorem exist in concrete reality, the economist will be able to accurately predict the qualitative effects of any economic policy. Rent controls below market rents *will* cause a shortage of rental housing; price inflation *will* be reduced by reining in the growth of the money supply; if central banks tamper with the market interest rate by expanding bank credit, they *will* cause financial bubbles and a real investment boom followed by a wholesale collapse of asset prices and a recession. The praxeological method thus contrasts sharply with the positivist method, which vainly seeks to derive "tentatively valid" economic theories by constructing and testing static mathematical models disconnected from each other and reality.

After a thorough analysis of the concept of action and its immediate implications in parts 1 and 2 of *Human Action*, part 3 is devoted to a comprehensive discussion of economic calculation, which Mises

considers the logical prerequisite of theoretical research in economics. Despite its indispensability for the derivation of economic theory, however, economic calculation is not part of economic theory proper, which Mises refers to as "catallactics" or "the theory of indirect exchange." As Mises (395n1) emphasizes, "The theory of monetary calculation does not belong to the theory of indirect exchange. It is part of the general theory of praxeology." Praxeological reasoning is necessary to identify the special historical conditions required for calculable action—that is, the "application of cardinal numbers . . . for computation and calculation in the planning of future action and in establishing the effects achieved by past action." Indeed, "the elaboration of the sciences of praxeology and economics" can only occur "within a world in which action is computable and calculable" (200).

In other words, the typical puzzles and problems whose investigation initiated economic science could only emerge historically in a calculating market economy. Examples are the tendency to equality between price and costs of production, the fact that capital investment tends to earn a permanent interest return, and the observation that an increase in the money supply generally coincides with a rise in general prices. All these striking regularities could become visible only in a market economy because prices and production costs, capital and interest, and a general medium of exchange do not exist in systems that cannot calculate. It is for this reason that economics began as a science narrowly focused on an artificially delimited field of action that focused on the objective calculations of the businessman and neglected the subjective wants and desires of consumers.

As Mises (232) points out, "The science of human action was at the beginning merely a discipline dealing with those actions which can be tested by monetary calculation. It dealt exclusively with what we may call the orbit of economics in the narrower sense, that is, with those actions which in a market society are transacted by the intermediary of money." Thus, the theoretical system of the Classical School "was essentially a theory of calculated action." Starting from the classical theory, later economists expanded "step by step the field of their studies until they finally developed a system dealing with all human choices, a general theory of action" (232).

Mises's discussion of economic calculation is therefore presented immediately after his general treatment of praxeology but prior to his elaboration of economic theory proper. The stage is thus set for part 4, titled "Catallactics or Economics of the Market Society." Here Mises provides an exhaustive analysis of the operation of a market economy. Using what he calls the "imaginary construction of the pure market economy," Mises deploys the praxeological method to deduce the core theorems of economics (238). This procedure of developing economic theory by first analyzing a free-market economy in which economic calculation is unimpaired by coercion *before* examining socialism and interventionism is not a matter of heuristic convenience or ideological bias; it is dictated by "requirements of logical and systematic rigor" (200). For as Mises explains: "The analysis of the problems of the market society, the only pattern of human action in which calculation can be applied in planning action, opens access to all thinkable modes of action. . . . All noncapitalistic methods of economic management can be studied only under the hypothetical assumption that in them too cardinal numbers can be used in recording past action and planning future action. This is why economists place the study of the pure market economy in the center of their investigations" (267). Thus, Mises concludes, "economic calculation is the fundamental issue in the comprehension of all problems commonly called economic" (200).

Part 5 discusses social cooperation without a market. In this part, Mises analyzes the "imaginary construction of a socialist society" in which private ownership, free exchange, and market prices of the means of production are all absent. Using the mighty theoretical system he previously deduced by analyzing the pure market economy, Mises demonstrates in five pages that, in a perfect socialist society, economic calculation and, therefore, the economizing of the scarce factors of production—even from the standpoint of the central planner's own value scale—is "impossible." Under these conditions, production becomes chaotic and social cooperation quickly disintegrates. The rest of the discussion of socialism involves Mises's refutation of the counterarguments to his position put forward by socialist and neoclassical economists.

Figure 1. The structure of *Human Action*

Introduction	pp. 1–10
Part One: Human Action	Praxeology and its method, pp. 11–232
Part Two: Action within the Framework of Society	
Part Three: Economic Calculation	
Part Four: Catallactics or Economics of the Market Society	Comparative economic systems, pp. 233–857
Part Five: Social Cooperation without a Market	
Part Six: The Hampered Market Economy	
Part Seven: The Place of Economics in Society	pp. 858–81

Part 6 deals with the hampered market economy. Here Mises expounds his unique conception of interventionism, which utterly rejects the conventional view that it constitutes a "mixed economy" or a "third system" existing somewhere between capitalism and socialism. Mises denies the possibility of intermixing elements of these two systems: there is either capitalism or socialism, and never the twain shall meet. Either consumers or government planners exercise sovereignty over the use of scarce resources. Any attempt to divide control of production between the two groups inevitably leads to an unstable regime of systemic conflict and crisis because the market economy is a vast and intricate system of interrelated activities. An isolated government decree or "intervention" aimed at altering a particular market outcome inevitably changes the data of economic calculation (prices, profits, revenues, costs, wealth, capital values, etc.) throughout the entire system. This provokes a reaction by consumers and entrepreneurs which changes the data yet again. What emerges is a third set of market conditions that is less preferred and may even be positively undesirable from the government's viewpoint, inviting further interventions. For Mises, interventionism, therefore, is not a third economic *system* but a market economy in which monetary calculation is repeatedly distorted and elements of economic discoordination and chaos introduced from outside the system.

In an unpublished manuscript written after *Human Action*, Mises ([ca. 1958], 7) identifies the inherent problem of interventionism as "the

problem of divided supremacy" and argues that interventionism is self-contradictory: "The concept of supremacy logically implies indivisibility. Either A is called upon to decide or B. If both A and B are supposed to be supreme, an insoluble conflict emerges as soon as they do not agree with one another. In the market economy the consumers ultimately determine the course of production; in a socialist system it is . . . the government. Interventionism acquiesces in the spurious expedient of assigning supremacy to both the consumers and the government."

4. Interventionism and Economic Prediction

Ironically, economics renders its practical service as a predictive science under the regime of interventionism. In the case of pure socialism, all an economist can do is to explain why the system is utterly incapable of allocating resources to their most valuable uses. He can make no predictions about the pattern of operation of socialism because, lacking the means of economic calculation, the system is foredoomed to a rapid descent into "planned chaos." Nor can economics be of much service in predicting the concrete pattern of resource use and pricing that will emerge in an unhampered market economy, because these depend on subjective and changeable consumer value scales and the ever-varying technical conditions of production, neither of which can be known by the economist with certainty. Put differently, when considering the pure market economy, the economist cannot ascertain the data of the system or their configuration at any moment in the future. For example, the economist knows with absolute certainty that an increase in the supply of wheat will cause a lowering of its price and other effects but does not know if or when this event will occur. Entrepreneurs are far more astute than economists in forecasting such occurrences, and even their forecasts often go awry.

Matters are wholly different with respect to a regime of interventionism because economists *start* with the knowledge of the specific economic policy to be imposed. They can then trace out the consequences using the applicable economic theorems yielded by the praxeological method. They can, therefore, predict the pattern—although not the temporal or quantitative dimensions—of future economic activities that will result, say, from the minimum wage or bank credit expansion. In the last book he wrote, Mises forcefully states the claim for

the predictive power of economic theory with respect to interventionism: "Economics can predict the effects to be expected from resorting to definite measures of economic policies. It can answer the question of whether a definite policy is able to attain the ends aimed at and, if the answer is in the negative, what its real effects will be. But, of course, this prediction can only be 'qualitative.' It cannot be quantitative because there are no constant relations between the factors and effects concerned. *The practical value of economics is to be seen in this neatly circumscribed power of predicting the outcome of definite measures*" (Mises 2002, 68–69; emphasis added).

In his volume on epistemological problems of economics, Mises boldly places praxeological economics on a par with the natural sciences in its predictive power: "Economics too can make predictions in the sense in which this ability is attributed to the natural sciences. The economist can and does know in advance what effect an increase in the quantity of money will have upon its purchasing power or what consequences price controls must have. Therefore, the inflations of the age of war and revolution, and the controls enacted in connection with them, brought about no results unforeseen by economics" (Mises 2003, 129).

Mises's theory of interventionism predicts with certainty that the market economy hampered by an ever-increasing array of mandates, controls, taxes, and regulations will be an economy afflicted by continual and deepening crises. Crumbling and simultaneously overbuilt infrastructure, financial crises, inflationary redistributions of wealth to megabillionaire financiers, trillion-dollar deficits, capital consumption, and the erosion of labor productivity and real wages—all are crises caused by interventions, one piled atop another. If the progressive Left succeeds in imposing on society its crazed utopian vision of an egalitarian social democracy, humanity faces the gruesome reality of a perpetual crisis economy.

5. Conclusion

There is, however, a powerful reason for libertarians to take heart from Mises's analysis. For interventionism is an unstable regime which lurches erratically to and fro between full socialism and the pure market economy. Precisely because it contains the inherent contradiction of

divided sovereignty, we can predict that it will be battered by endless crises. These crises will undermine the plans and morale of the ruling elites while impoverishing, frustrating, and embittering the productive classes. This will foster an "us against them" mentality among the exploited and present an opportunity that can be seized by libertarian thought leaders and opinion molders. These men and women, armed with the lessons of *Human Action* and imbued with the Misesian spirit of human liberty, would be well equipped to mobilize and lead a militant, mass reaction that ousts the progressive elites from their positions of power and influence and propels society and the economy toward "a system of totally voluntary exchange."[1]

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[1] I have shamelessly appropriated this term from the late, great scholar and libertarian Ralph Raico, who coined it as a euphemism for anarcho-capitalism.

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14

Calculation and Environmental Policy: Lessons from *Human Action*

Timothy D. Terrell

When *Human Action* was published in 1949, the environmental movement had not achieved the grip on policymaking that we see today. Rachel Carson's *Silent Spring* would be published in 1962. Paul Ehrlich's *The Population Bomb*, which an American journalist called "one of the most spectacularly foolish books ever published" (Last 2013, 7), and Garrett Hardin's (1968) "The Tragedy of the Commons" would both appear in 1968. The first Earth Day and the establishment of the Environmental Protection Agency (EPA) would occur in 1970. Today, many people have completely accepted mainline environmentalism's message that human freedom is creating climate catastrophe, impending resource exhaustion, overpopulation, and worsening pollution. Handing more power to the state is widely considered the only viable solution.

In writing *Human Action*, Mises did not devote much space to a direct discussion of environmental policy. Yet as we examine the book with an eye toward material related to environmental issues, we can see comments from Mises that show that his advances in economic calculation, his understanding of the function of private property, and his remarks on interest group politics are all applicable to today's debates on environmental policy.

Externalities and Calculation

One of Mises's most significant contributions to economics is his exposition of the socialist calculation problem. Without individuals revealing their preferences by voluntarily agreeing to give up a certain number of units of money for a product or, conversely, giving up a product for units of money, we can have no basis for economic calculation. This has numerous applications to environmental policies.

Environmental "externalities"—the side effects of our activities on bystanders who use the same air or water, or neighboring land—create calculation problems, as do government's interventions to respond to them. In an underappreciated passage in chapter 23 of *Human Action*, Mises points out this problem of externalities—that a proprietor will "disregard those benefits which do not increase his own satisfaction and those costs which do not burden him. His conduct will deviate from the line which it would have followed if the laws were better adjusted to the economic objectives of private ownership. He will embark upon certain projects only because the laws release him from responsibility for some of the costs incurred. He will abstain from other projects merely because the laws prevent him from harvesting all the advantages derivable" (Mises 1998, 651). Mises is clear that the ability to dump some of the costs onto others results in calculation problems: "It is true that where a considerable part of the costs incurred are external costs from the point of view of the acting individuals or firms, the economic calculation established by them is manifestly defective and their results deceptive" (653).

At this point, most economists would argue that this is the point where government needs to step in to correct the "market failure." But they would do well to read the rest of the paragraph in *Human Action*: "But this is not the outcome of alleged deficiencies inherent in the system of private ownership of the means of production. It is on the contrary a consequence of loopholes left in this system. It could be removed by a reform of the laws concerning liability for damages inflicted and by rescinding the institutional barriers preventing the full operation of private ownership" (653). For the proponents of mainstream "market failure" doctrine, however, handling externalities by

employing liability reforms as Mises suggested is often passed over in favor of coercive intervention. These policies take several forms.

One is a tax on emissions, known as a "Pigovian tax" after Cambridge economist Arthur Cecil Pigou. Pigovian taxes are still commonly suggested today. For example, because of external costs resulting from the use of fossil fuels, numerous proposals for a federal carbon tax have appeared in the last several years, including the "Green New Deal." Even some who claim to be libertarians have proposed them. Notably, Gary Johnson, who in 2016 was the Libertarian Party nominee for president, said that he was "open also to the notion of a carbon tax" (Goldberg 2016; Bishop 2016).

A second policy response involves regulatory decrees, often requiring the use of a specific technology to control pollution ("command-and-control" regulation). A policy requiring a particular emissions control device on a vehicle would be of this sort.

A third type of policy response is a cap-and-trade policy, such as the EPA's Acid Rain Program, which began auctioning off sulfur dioxide permits in 1993. Tradable permit systems have a superficial appeal to market-friendly economists and policymakers because, after all, the permits trade in a market. Unfortunately, it's only a quasi market, with the supply of permits dictated by regulators.

Though we might see certain advantages to one of these policies over another—tradable permits, for example, probably have some advantages over command-and-control regulation because they provide somewhat more flexibility for of the entrepreneur—they all fail to solve the calculation problem.

We can see some of the problems by examining Mises's critique of arguments that the government should subsidize various activities. In the environmental context, we might see calls for subsidies on activities that create positive externalities (benefits which do not increase the proprietor's satisfaction, as mentioned earlier). A subsidy on positive externalities would be the reverse of a tax on negative externalities, and is subject to the same problems.

For example, some would argue that since profit-seeking businesses will not engage in adequate (as determined by the subsidy advocates) planting of trees, recycling, conversion to electric vehicles, or habitat

restoration, it becomes incumbent upon government to intervene. Mises's response, addressing subsidies more generally, is instructive:

> A project P is unprofitable when and because consumers prefer the satisfaction expected from the realization of some other projects to the satisfaction expected from the realization of P. The realization of P would withdraw capital and labor from the realization of some other projects for which the demand of the consumers is more urgent. The layman and the pseudo-economist fail to recognize this fact. They stubbornly refuse to notice the scarcity of the factors of production. . . . [To them, it] is merely the wantonness of the profit system that prevents the nation from enjoying gratuitously the pleasures expected from P.
>
> Now, these short-sighted critics go on to say, the absurdity of the profit system becomes especially outrageous if the unprofitability of P is merely due to the fact that the entrepreneur's calculations neglect those advantages of P which for them are external economies. From the point of view of the whole of society such advantages are not external. They benefit at least some members of society and would increase "total welfare." The nonrealization of P is therefore a loss for society. As profit-seeking business, entirely committed to selfishness, declines to embark upon such unprofitable projects, it is the duty of government to fill the gap. Government should either run them as public enterprises or it should subsidize them in order to make them attractive for the private entrepreneur and investor. (Mises 1998, 654–55)

So goes the criticism of profit seeking. But Mises goes on to point out that funds for this project require the sacrifice of profitable projects that people otherwise would have carried out with the funds: "From the point of view of the consumers the employment of these means of production for the realization of an unprofitable project is wasteful. It deprives them of satisfactions which they prefer to those which the government-sponsored project can furnish them" (655; cf. 736, 737).

The government's effort to increase the production of the positive externality–producing good with subsidies that match the value of the externality is therefore thwarted by two related and incontrovertible problems. First, it is impossible to determine whether, and to what extent, the free market underproduces the good. Second, it is impossible

to determine whether any value created by the government subsidy is greater than the opportunity cost of the government spending. These problems are both manifestations of the same underlying problem of economic calculation described by Mises. Subsidizing habitat preservation, for instance, would require both knowledge of the optimal amount of habitat and knowledge of the benefits forgone when wealth is forcibly extracted from taxpayers. Inverting the problem, efforts to place a tax equal to the cost of a unit of carbon emissions into the air are futile, as air is not voluntarily exchanged in a market. And, as Mises says, "The prices of the market are the ultimate fact for economic calculation. It cannot be applied for considerations whose standard is not the demand of consumers as manifested on the market but the hypothetical valuations of a dictatorial body managing all national or earthly affairs. He who seeks to judge actions from the point of view of a pretended 'social value,' i.e., from the point of view of the 'whole society,' and to criticize them by comparison with the events in an imaginary socialist system in which his own will is supreme, has no use for economic calculation" (217).

However, many economists and bureaucrats continue to pretend that the necessary information is within their reach, or that the difficulty can simply be dismissed. William Baumol admitted the information problems in a defense of Pigovian taxes: "Despite the validity in principle of the tax-subsidy approach of the Pigovian tradition, in practice it suffers from serious difficulties. For we do not know how to estimate the magnitude of the social costs, the data needed to implement the Pigovian tax-subsidy proposals. For example, a very substantial proportion of the cost of pollution is psychic; and even if we knew how to evaluate the psychic cost of some one individual we seem to have little hope of dealing with effects so widely diffused through the population" (Baumol 1972, 316). Baumol later noted, "We do not know how to calculate the required taxes and subsidies and we do not know how to approximate them by trial and error" (Baumol 1972, 318).

So far, so good. But Baumol essentially dismissed these problems and proposed acting "on the basis of a set of minimum standards of acceptability," finding "some maximal level of this pollutant that is considered satisfactory." This sweeps the calculation problem (how

much pollution is "acceptable" or "satisfactory"?) under the rug, which he admitted. "But," Baumol contended, "if we permit ourselves to be paralyzed by councils of perfection we may have still greater cause for regret" (Baumol 1972, 318). In other words, it is better to do something to reduce pollution than to impose no pollution limits whatsoever.

This is not the case. It is quite possible for the "something" that government does to reduce pollution to be worse than the pollution problem that the policy is intended to solve. According to Mises's arguments about the socialist calculation problem, government has no way of calculating the socially optimal level of pollution, because it is operating outside of the market system that would provide useful information as a basis for comparison. Even if it could somehow solve this problem, it faces constant pressures from interest groups who want to suppress competition by weaponizing regulation, about which more will be said below. It is, then, quite possible for the cure to be worse than the disease. In a free market, we would see privately imposed limits on pollution, often imposed via court cases regarding nuisance and torts (see, e.g., Rothbard 1982), so the choice is not solely between governmentally imposed limits or no limits.

It is appropriate to address here some relevant comments made by the celebrated Ronald Coase. There are some "free-market environmentalists" who regard Coase as essentially supportive of markets because he said that in cases of externalities, with sufficiently low transaction costs and well-defined property rights, parties that are free to exchange those rights with each other will move toward efficient outcomes and resolve externality disputes (Coase 1960). This is the "Coase theorem." In comparison to command-and-control environmental regulation, there is a valuable point in this idea. A common-law system that better defined property rights over disputed air, water, rays of light, and so on would facilitate externality resolution better than ham-fisted regulators. But we should be careful because there are some underlying assumptions in Coase that we should not let slide by unchallenged.

In his introduction to his 1988 book *The Firm, the Market, and the Law*, a collection of Coase's essays published a year before his receipt of the Nobel Prize in economics, Coase writes that it was a mistake to presume that the existence of an externality required government intervention:

> It is easy to show that the mere existence of "externalities" does not, in itself, provide any reason for governmental intervention. Indeed, the fact that there are transaction costs and that they are large implies that many effects of people's actions will not be covered by market transactions. Consequently, "externalities" will be ubiquitous. The fact that governmental intervention also has its costs makes it very likely that most "externalities" should be allowed to continue if the value of production is to be maximized. This conclusion is strengthened if we assume that government is not like Pigou's ideal but is more like his normal public authority—ignorant, subject to pressure, and corrupt. Whether there is a presumption, when we observe an "externality," that governmental intervention is desirable, depends on the cost conditions in the economy concerned. We can imagine cost conditions in which this presumption would be correct and also those in which it would not. It is wrong to claim that economic theory establishes such a presumption. What we are dealing with is a factual question. The ubiquitous nature of "externalities" suggests to me that there is a prima facie case against intervention, and the studies on the effects of regulation which have been made in recent years in the United States, . . . which indicate that regulation has commonly made matters worse, lend support to this view.
>
> The concept of "externality" has come to play a central role in welfare economics, with results which have been wholly unfortunate. There are, without question, effects of their actions on others (and even on themselves) which people making decisions do not take into account. But, as employed today, the term carries with it the connotation that when "externalities" are found, steps should be taken by the government to eliminate them. As already indicated, the only reason individuals and private organizations do not eliminate them is that the gain from doing so would be offset by what would be lost (including the costs of making the arrangements necessary to bring about this result). If with governmental intervention the losses also exceed the gains from eliminating the "externality," it is obviously desirable that it should remain. (Coase 1990, 24–26)

Now, after reading this, many of those who favor markets over coercive government interference will cheer, as none other than Ronald Coase has taken down the statists who see in externalities a clear justification for corrective taxes, regulation, etc.

But not so fast. Coase has not dealt adequately with Mises's arguments concerning economic calculation. And in failing to do so, Coase leaves a hole large enough to drive an electric-powered bus full of environmental conference attendees through. Coase says that government intervention could be desirable depending on "cost conditions in the economy concerned." What are these cost conditions? As Coase says, "We can imagine cost conditions in which this presumption [the presumption that government intervention is desirable] would be correct and also those in which it would not." But that is all Coase has: imagining. In the absence of free markets, there is no way to pin down these "cost conditions" in particular situations, or to do anything more than speculate about what the costs of externalities or the costs of transactions or the costs of intervention might be. Coase here is tied to this cost-measurement chimera. His statement "If with governmental intervention the losses also exceed the gains from eliminating the 'externality' . . ." would leave us with fundamentally indefensible cost-measurement exercises as the only argument against intervention.

Later, in his Nobel acceptance speech, Coase made the same error when discussing his "infamous Coase Theorem" ("infamous" was his word). He said, "Since standard economic theory assumes transaction costs to be zero, the Coase Theorem demonstrates that the Pigovian solutions are unnecessary in these circumstances. Of course, it does not imply, when transaction costs are positive, that government actions (such as government operation, regulation or taxation, including subsidies) could not produce a better result than relying on negotiations between individuals in the market. Whether this would be so could be discovered not by studying imaginary governments but what real governments actually do" (Coase 1991).

Note that Coase believed that some kind of empirical study of governments could determine whether or not government intervention would produce improvements (measured, of course, by market values on output). The Misesian response is clear: We cannot measure these costs in the absence of freely acting individuals revealing their preferences through market transactions. Because government suppresses the market in favor of politically determined planning, no amount of study of government can reveal costs in a way that would allow us

to find out whether government action will in fact "produce a better result" than the market.

Calculation across Time and Originary Interest

The problem of calculating costs becomes even more acute when we consider the passage of time. Many environmental policies are intended to prevent damage (or create benefits) that could theoretically occur in the distant future to people who are not yet born. This fails because, once again, government cannot calculate without the information revealed in market transactions. But we can know even less about the capabilities and priorities of our remote descendants, and the costs could extend generations into the future before these possible benefits materialize.

The preference of goods today to goods in the future is a basic fact of human existence, evidenced in the *originary interest* that prevails in market economies. In *Human Action*, Mises defines originary interest as "the ratio of the value assigned to want-satisfaction in the immediate future and the value assigned to want-satisfaction in remoter periods of the future" (Mises 1998, 523). While legislation might sometimes specify a discount rate to be used for certain purposes (e.g., for assessing the present value of damages incurred over a period of time), the originary interest rate is a product of human preferences. As such, "there cannot be any question of abolishing interest by any institutions, laws, and devices of bank manipulation. He who wants to 'abolish' interest will have to induce people to value an apple available in a hundred years no less than a present apple. What can be abolished by laws and decrees is merely the right of the capitalists to receive interest. But such laws would bring about capital consumption and would very soon throw mankind back into the original state of natural poverty" (529).

And yet it is not uncommon to see suggestions among environmentalists that the market-determined discount rate is too high, and that a proper accounting for the needs of future generations requires a lower rate, essentially abolishing it in some cases. For example, the *Stern Review on the Economics of Climate Change*, an influential 2006 study from the British government, employs a near-zero discount

rate (0.1 percent per year) (Stern 2007). The implication for emissions-reduction policies, such as carbon taxes or emissions taxes, is that the tax today would need to be much higher, preventing investment in productive capital in the present. William Nordhaus (2007, 696; emphasis in original) points out the absurdity:

> Suppose that scientists discover a wrinkle in the climate system that will cause damages equal to 0.1 percent of net consumption starting in 2200 and continuing at that rate forever after. How large a one-time investment would be justified today to remove the wrinkle that starts only after *two centuries*? Using the methodology of the Review, the answer is that we should pay up to 56 percent of one year's world consumption today to remove the wrinkle. . . . In other words, it is worth a one-time consumption hit of approximately $30,000 billion today to fix a tiny problem that begins in 2200.

When we get into politically determined discount rates, where government rather than acting individuals in the market is determining the appropriate interest rate, we get all kinds of strange results. For example, the federal government spent $9 billion developing a waste repository for spent nuclear fuel at Yucca Mountain, Nevada, after which the plans were canceled. The facility was to have a design ensuring safety for 10,000 years into the future. A controversy arose when a National Academy of Sciences panel determined that in 270,000 years, the radiation dosage received by someone standing just outside the fence would be sixty times the allowable dose. A US Court of Appeals agreed that the 10,000-year period was too short. But the discount rate applied would have to be far smaller than what is normal, for an extension of the safety standard to 300,000 years to make sense. As economists Kip Viscusi, Joseph Harrington, and John Sappington (2018, 782) said,

> Suppose we adopt a modest discount rate of 3 percent. Then a dollar of benefits 270,000 years from now has a present discounted value of $(1/1.03)^{270,000}$. [This is, for all practical purposes, zero.] To see the effect of discounting, consider the following example. Instead of having only one person exposed to radiation at the Yucca Mountain fence, suppose we crammed 300 million people up against the fence. Also assume a worst case of radiation

> exposure that leads all of them to experience fatal cases of cancer. . . . On a discounted basis, the result of having 300 million people exposed to risk at the site would be the equivalent of a one in 100,000 chance of cancer today for a single person.

Trying, in the absence of market prices, to compare the benefits of resource use today and costs of pollution tomorrow falls afoul of the socialist calculation problem once more. It replaces the actual preferences of many millions of human beings with the dictates of central planners.

Calculation and Resource Depletion

The same problem arises with concerns about natural resource depletion. There are, of course, many examples of worries about exhaustion of this or that natural resource. We look back on many of these now and can clearly see that the worries were needless, either because the resource scarcity was resolved with increases in supply or because of transition to a different resource.

In 1920, the chief geologist of the US Geological Survey reported that only seven billion barrels of petroleum remained to be recovered with existing techniques. He predicted that at the annual rate of consumption of five hundred million barrels, American oil resources would be gone in fourteen years (by 1934). When 1934 arrived, twelve billion barrels had been produced, and an additional twelve billion barrels in proven reserves had been discovered (Hueckel 1975, 927–28).

Carl Pope, executive director of the Sierra Club, said in 2006 that "U.S. oil production peaked in 1971, and our proven reserves have declined by 20 percent since 1990. Worldwide, petroleum geologists say that as soon as 2010 we may reach the moment called 'peak oil,' when production tops off and begins its inexorable decline" (Pope 2006). He was writing this near a low point in US oil production. By 2010 US oil production was on the rise again, and by 2018 it had blown through the old 1971 peak (see US Energy Information Administration, n.d.-a). And while US proven reserves did decline from 1990 to 2006, reserves began to increase again. Just five years after Pope's comment, proven reserves were already higher than they had been in 1990 (see US Energy Information Administration 2024), and they continued to

rise until by 2022 they were 75 percent higher than they had been in 1990. Worldwide, global oil production was 81.8 million barrels of oil per day in 2023, down a bit from 2018 and 2019, but having almost completely recovered from its pandemic slump (see US Energy Information Administration, n.d.-b).

Though the predictions have been off so far, the idea that there will be a "peak oil" is reasonable. However, it will likely be caused by falling demand rather than insufficient supply. Fossil fuels will be replaced by other energy sources at some point. We do not know all the alternatives now, but efforts to accelerate or delay that transition by government fiat once again run up against the socialist calculation problem.

One of the most famous tests of resource exhaustion worries was the 1980 bet between Julian Simon and Paul Ehrlich. Simon bet Ehrlich that resource scarcity would become better, not worse, over time, and that therefore the inflation-adjusted prices of five raw materials to be chosen by Ehrlich would fall, not rise, in the future. Ehrlich chose five metals and a ten-year time period. They invested $1,000 on paper, with the agreement that if the prices rose, Simon would pay Ehrlich the difference, and if they fell, Ehrlich would pay Simon. By 1990, all five metals had fallen in inflation-adjusted prices, and Ehrlich sent Simon a check for $576.07 (Perry 2010).

But new worries always arise, and invariably the proposed solution from mainline environmentalists is more government intervention to regulate the rate of use of exhaustible resources. This is problematic for several reasons. One, which Mises points out in *Human Action*, is that we do not know what resources will in fact be in demand in the future. He writes,

> Many people are alarmed by the reckless use of the deposits of minerals and oil which cannot be replaced. Our contemporaries, they say, squander an exhaustible stock without any regard for the coming generations. We are consuming our own birthright and that of the future. Now these complaints make little sense. We do not know whether later ages will still rely upon the same raw materials on which we depend today. It is true that the exhaustion of the oil deposits and even those of coal is progressing at a quick rate. But it is very likely that in a hundred or five hundred years people will resort to other methods of producing

> heat and power. Nobody knows whether we, in being less profligate with these deposits, would not deprive ourselves without any advantage to men of the twenty-first or of the twenty-fourth centuries. It is vain to provide for the needs of ages the technological abilities of which we cannot even dream. (Mises 1998, 383)

In the same section, Mises goes on to point out the contradiction contained in simultaneously complaining of resource exhaustion and monopolies over natural resources. Since monopolies will tend to reduce production to drive up the price, should we not expect those concerned about resource depletion to support monopolies, or at least cartels, in oil or other natural resources? But this isn't what we see.[1] And since in some cases worries about depletion have been supplemented with worries about pollution from the production and use of these same resources, we might expect that higher prices would result in celebration among mainline environmentalists. Instead, we see objections to collusion or other efforts to raise prices.

Mises is clear that economics does not try to justify monopoly prices, or condemn them. But he does say that it is a "grotesque distortion" to think of monopolization as a phenomenon linked to capitalism. Instead, we should speak of "monopoly interventionism" and "government-made cartels" (384). Actual free-market prices seem to be regarded as a nuisance by mainline environmentalists. Indeed, one of the most consistent threads in mainline environmentalism is a preference for government-organized prices and production. This is rooted in a supreme arrogance—the arrogance to assert that a few central planners can have knowledge of the most efficient sources of energy or uses of land or foods to eat—down to the best materials with which to manufacture a drinking straw. Most mainline environmentalists do not say that they wish to get rid of prices or the exchange of goods in something they would think of as a market. They simply wish to decide what should be produced, what the production process should be, what the prices should be, and what incomes people should have with which to pay those prices. But as Mises says, prices are "a market phenomenon . . . generated by the market process. . . .

[1] See, e.g., Brown (2022) and Van Hoesen (2024).

There is no such thing as prices outside the market. . . . It is . . . vain to ponder on what prices ought to be" (392).

Mises reminds us that the absence of property and free-market prices is at the root of resource depletion. Without ownership of a resource, or at least some widely accepted social rules concerning its use, it is at greater risk of being depleted. And property that is not owned is treated in much the same way as property that may be owned, but could be soon lost. Mises says,

> There are institutional conditions that cause the persons involved to prefer satisfaction in the nearer future and to disregard entirely or almost entirely satisfaction in the more distant future. If the soil is on the one hand not owned by individual proprietors and on the other hand all, or certain people favored by special privilege or by the actual state of affairs, are free to make use of it temporarily for their own benefit, no heed is paid to the future. The same is the case when the proprietor expects that he will be expropriated in a not too distant future. In both cases the actors are exclusively intent upon squeezing out as much as possible for their immediate advantage. They do not concern themselves about the temporally more remote consequences of their methods of exploitation. Tomorrow does not count for them. The history of lumbering, hunting, and fishing provides plenty of illustrative experience; but many examples can also be found in other branches of soil utilization. (635)

A few pages later, Mises expands on this:

> If land is not owned by anybody, although legal formalism may call it public property, it is utilized without any regard to the disadvantages resulting. Those who are in a position to appropriate to themselves the returns—lumber and game of the forests, fish of the water areas, and mineral deposits of the subsoil—do not bother about the later effects of their mode of exploitation. For them the erosion of the soil, the depletion of the exhaustible resources and other impairments of the future utilization are external costs not entering into their calculation of input and output. They cut down the trees without any regard for fresh shoots or reforestation. In hunting and fishing they do not shrink from methods preventing the repopulation of the hunting and fishing grounds. In the early days of human civilization, when soil of a

> quality not inferior to that of the utilized pieces was still abundant, people did not find any fault with such predatory methods. When their effects appeared in a decrease in the net returns, the ploughman abandoned his farm and moved to another place. It was only when a country was more densely settled and unoccupied first class land was no longer available for appropriation, that people began to consider such predatory methods wasteful. At that time they consolidated the institution of private property in land. They started with arable land and then, step by step, included pastures, forests, and fisheries. The newly settled colonial countries overseas, especially the vast spaces of the United States, whose marvelous agricultural potentialities were almost untouched when the first colonists from Europe arrived, passed through the same stages. (652)

Terry Anderson and P. J. Hill (1975), as well as others in that line, would later show how that "consolidat[ion of] the institution of private property in land" and in other resources could take place through voluntary organizations, without a state.

Ironically, it is the state that often promotes the rapid resource depletion that is so often blamed on the private sector. Elected officials have a time horizon that is truncated by the next election. Even if they could somehow conquer the calculation problem and discover the optimal rate of resource depletion, they would have little incentive to adhere to that with regard to government-owned natural resources. While a profit-seeking firm has an indefinite life and therefore must take into account the present value of a stream of earnings extending indefinitely into the future, the elected official gains little or nothing from resource use that is credited to a successor.

Interest Groups and Environmental Regulation

This brings us to a final problem with the efforts to account for external costs and benefits with government action. Even if the problems of calculation could somehow be resolved, politicians and their attendant bureaucracies tend to act in their own interests, which do not typically induce them to seek an "ideal" quantity of production. Elected officials typically want reelection, and bureaucrats want larger budgets. Mises addresses this problem as well, identifying the deficiencies in

property rights law as the result of governments' vacillating between the promotion of industrial development and the promotion of low-income voters:

> The laws concerning liability and indemnification for damages caused were and still are in some respects deficient. By and large the principle is accepted that everybody is liable to damages which his actions have inflicted upon other people. But there were loopholes left which the legislators were slow to fill. In some cases this tardiness was intentional because the imperfections agreed with the plans of the authorities. When in the past in many countries the owners of factories and railroads were not held liable for the damages which the conduct of their enterprises inflicted on the property and health of neighbors, patrons, employees, and other people through smoke, soot, noise, water pollution, and accidents caused by defective or inappropriate equipment, the idea was that one should not undermine the progress of industrialization and the development of transportation facilities. The same doctrines which prompted and still are prompting many governments to encourage investment in factories and railroads through subsidies, tax exemption, tariffs, and cheap credit were at work in the emergence of a legal state of affairs in which the liability of such enterprises was either formally or practically abated. Later again the opposite tendency began to prevail in many countries and the liability of manufacturers and railroads was increased as against that of other citizens and firms. Here again definite political objectives were operative. Legislators wished to protect the poor, the wage earners, and the peasants against the wealthy entrepreneurs and capitalists. (Mises 1998, 651)

Extensions of this idea appeared in the decades after *Human Action* was published, demonstrating that industries would lobby for regulation not only to escape liability, but also to gain advantages over rivals or potential rivals (see, e.g., Director and Levi 1956; Nelson 1957; Stigler 1971). Bruce Yandle's "bootleggers and Baptists" framework (e.g., Yandle 1983, 1999) has been useful in describing the coalitions between industries trying to use regulation to suppress rivals and ideologically motivated groups that add a public interest veneer to these regulations. In the mix of interest group politics, the textbook "ideal" outcome—even if it could be known—would be unlikely to emerge.

Conclusion

Though Mises wrote *Human Action* before statist environmentalism gained the ascendancy it would enjoy in the late twentieth and early twenty-first centuries, its insights are clearly applicable to modern debates over environmental policy. As we have seen, government does not—and cannot—have the information it would need to calculate what level of pollution or resource use is efficient, and government officials lack the incentives to be particularly interested in efficiency anyway.

Mises's calculation argument would later be supplemented by Murray Rothbard's observation that modern environmental policy also has an ethical problem. In his classic essay "Law, Property Rights, and Air Pollution," Rothbard writes, "Even if the concept of social efficiency were meaningful, they don't answer the questions of why efficiency should be the overriding consideration in establishing legal principles or why externalities should be internalized above all other considerations" (Rothbard 1982, 59). Basing legal decisions on property rights, as Rothbard proposed, instead of on an incoherent utilitarian search for social efficiency would avoid the socialist calculation problem.[1] Many in the mainline environmental movement also make the argument that ethics should trump efficiency, but its adherents often fail to recognize the ethicality of private property and markets.

Had environmentalism built on the insights into the power of the market that are contained in *Human Action*, it might have taken a different turn. A commitment to property rights instead of state ownership and control over natural resources would have generated both better lives for human beings and a reduction of many of the pollution problems and resource use problems that we have seen. Unfortunately,

[1] As Edward Stringham and Mark White (2005, 381) point out, "Utilitarian theories in general suffer from these calculation problems, but deontological theories, such as rights-based ethical systems, do not. In such theories, legal decisions would be made based on notions of justice rather than efficiency, and judges would not face the unenviable task of calculating the economic consequences, in all possible states of the world, of all their possible actions." And Jonathan Adler (2009, 311) makes a similar point: "From an FME [free-market environmentalism] perspective there should be a problem with setting global policy priorities through a cost-benefit analysis rather than allowing such priorities to emerge from the spontaneous interactions of individuals and communities through the market process. One of the points of property rights is to preserve the decisional autonomy of property owners, so that they are able to act in accordance with their subjective value preferences."

mainline environmentalism has become an avenue for vastly expanding the power of the state, and in terms of environmental quality, it is not clear that the state's coercive efforts have made things better instead of worse. So on *Human Action*'s seventy-fifth anniversary, it is appropriate to remember how important Mises's insights—especially on economic calculation—are in dismantling the myths and misconceptions of today's environmental policy.

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15

Is *Human Action* the Hidden Impact Crater of Modern Economics?

Mark Thornton*

> *In this immense volume [Mises] presented his exhaustive analysis of all things economic. This treatise is not beach reading. It is deeply philosophical as well as impressively analytical. And yet it is accessible to any intelligent reader who can spare the time, and expend the concentrated effort, required to grasp its lessons. Regrettably, too few people are willing to spare such time and expend such effort on reading* Human Action.
>
> —Donald J. Boudreaux, from the foreword to Robert P. Murphy's *Choice: Cooperation, Enterprise, and Human Action*[1]

For most professional economists *Human Action* is a forgotten artifact. As a "treatise" it supposedly investigates everything from a theoretical point of view, an outmoded model from prior to the professionalization of the discipline. The introductory quote from Professor Boudreaux is a typical refrain from champions of *Human Action* on the difficulties of reading it, particularly the first three hundred pages. However, this essay argues that its

* The author wishes to acknowledge the research assistance of David Brady and the helpful suggestions of Joseph T. Salerno, Jonathan Newman, and David Gordon.

[1] According to Murphy (2015), his book is a "modern, condensed treatment" of *Human Action*, which otherwise suffers from being too long and formal for the reader.

opening analysis, or theorizing, had a profound impact on subsequent post-1950 developments in the economic profession, including the Chicago School, public choice theory, the microeconomics revolution, and potentially even mathematical economics and econometrics. In addition to having a profound effect on solidifying our understanding of human behavior as rational and maximizing, Ludwig von Mises's approach has come to define economics.

Impact Craters

An impact crater, or basin, is a very large impression on the surface of a planetary object that transforms the body in a lasting, usually circular pattern, sometimes with revolutionary impact on life. Over thousands of years, even a massive impact structure gradually begins to be erased by weathering and hidden by vegetative growth.

Only in certain climates where weathering and vegetation are limited are we able to see such geological features such as the Barringer Crater in Arizona. As with large manmade objects in the desert, such as the pyramids in Egypt, it can be easily detected, while similar structures located in the jungle or under water were long hidden to history until sophisticated viewing technologies, such as lidar, were invented.

In terms of the history of ideas, we are similarly handicapped by the ideological limitations to what is obvious, such as the connections between teacher and student, or direct written testimony concerning the influence of some genius, idea, or technology. While some lidar-type technology, such as artificial intelligence, is now on the horizon to reveal much more about the historical pathways of ideas, here we propose a preliminary investigation of the impact of Mises's *Human Action* on the development of economics in the second half of the twentieth century. We find some noteworthy evidence that Mises and his treatise *Human Action* had a substantial yet unnoticed impact on academic economics and is, as such, like a hidden impact crater.

From Prodigy to Intellectual Outcast

Mises began his academic career as a successful avant-garde liberal economist, but his career was largely derailed by the advent of Hitler and World War II. After fleeing to Switzerland and then to the United

States, he remained an academic outcast and never regained his status as an important innovator within academia.[2]

The first version of his magnum opus, *Nationalökonomie* (Mises 1940), which he wrote in German while in exile, collapsed stillborn from the publisher during Hitler's onslaught. Although its 1949 English version, *Human Action* (Mises 1998), sold many copies, it failed to make any obvious or acknowledged impression on the economics profession.

The marketing success of the book for Yale University Press seemed to do nothing for Mises's academic reputation or even earn him a regular professorship. The book received accolades from conservative and anticommunist circles and became the economics bible of the new philosophical movement centered around novelist Ayn Rand, now known as *objectivism*.[3]

From today's perspective, Mises is widely recognized for his foundational contributions to monetary economics, business cycle theory, and as the "winner" of the socialist calculation debate but is more broadly considered the final academic remnant of the European liberal tradition (Hülsmann 2007). His contributions and treatise are considered relics of the field of economics' past, a teasing of all problems and issues from a purely theoretical exercise. Sherwin Rosen (1997) suggests that anything of value in Austrian economics has already been incorporated into neoclassical economics.

Obscurity

The first few hundred pages of the book, where Mises describes and defends his theoretical approach and method, seem to have had little impact on the modern reader and academic economists. Even in staunch libertarian circles chapters 1–14 are considered "infamous,"

[2] He also never realized his efforts to rebuild economics on stronger theoretical grounds or to reform and reinvigorate the Austrian School, which was displaced and scattered during World War II. Nor did he succeed in reestablishing the vigor of his prewar seminar in Vienna in his new location in New York.

[3] In spite of this recommendation, Rand did not like Mises's philosophical views in *Human Action*. Of all her marginalia in her copy of the book, thirty-four pages' worth were negative comments on the first three hundred pages, with one comment on the rest of the book. See Mayhew (1995).

a tedious, convoluted, and unnecessary obstruction to the rest of the book. Even the continuing modern revival of appreciation for his contributions has failed to resuscitate the place of his magnum opus in economics beyond the status of his "textbook," or compilation of his thoughts and works.

Of course, this modern-day view fails to recognize the revolutionary contribution of the book even though *Human Action*'s recasting of economic methodology and epistemology is in full agreement with accepted economic theory. In essence, Mises provides the raw material of a compelling, comprehensive, and rigorous view of human behavior that forms the basis of economic theory and human action more broadly.

The hypothesis of this essay is that *Human Action*—particularly the first few hundred pages—was instrumental to the new way of economic thinking that emerged with the new Chicago School, the Public Choice School, price theory, economic imperialism, general equilibrium analysis, and, ironically, the rise of economic formalism. Here we find the distinct features of "rational" behavior, praxeology applied to nonmarket action, and a dependence on economic laws of behavior.

Here is the claim of this essay: because the reader is "forced" to "test" and accept all the steps in Mises's argument introspectively, a basis of agreement is established. This unconscious agreement might not be recognized by the reader or might be recognized as nothing more than mere common sense. However, this acceptance by the reader is a form of learning by osmosis: the unconscious learning or "practical mastery" of otherwise "complicated situations which cannot be clearly analyzed" defined or explained (Murphy 2023). This learning of the principles of human behavior could take place even if the reader explicitly rejected *Human Action*. In fact, we would expect this type of "rejection" from recently trained professional economists in light of Mises's damning criticisms of the emerging features of modern economics, such as mathematical modeling and econometric testing. We would also expect such rejection from those who were ideologically or professionally predisposed to activist government involvement in the economy.

This essay examines the contents of the book and its possible influences on its readers. The findings of these examinations suggest further research is warranted. An unanticipated finding of this

investigation is that Mises's earlier works were instrumental in the definition of modern economics as an ends-means framework based on cause and effect and no ethical judgments.

Lessons from Osmosis

The material in *Human Action* begins in part 1, chapter 1, with the basic notion of purposeful human action, where the humanwill" results in a choice and an action to achieve a purpose. For Mises's praxeology, it is not scientifically important what motivates the process, such as hunger, emotion, psychological impulse, or some instinct, and neither does it matter how the individual's action goal (e.g., happiness, incentive, or utility), or even the individual's ultimate goal, is understood.

Here, rational action is a redundant phrase, and most importantly no ethical judgment of apparent purpose of action is permissible from the scientific point of view. We might have ethical objections to a particular course of action, or we may want to counsel alternative means to achieve stated ends, but we are otherwise neutral from the scientific point of view. Mises presents a unique scientific case for economics as a value-free science.

Armed with an understanding of cause and effect and an understanding of action, Mises describes a comprehensive analysis of what human action is, what it is not, and why it is the key basis for understanding an individual's actions and social phenomena. This exposition continues through the first nine sections of chapter 2 before Mises arrives at the procedure of economics. These introductory materials include what might be viewed as insulting statements toward "philosophers" but also show Mises disclaiming any originality. He claims that the method and theorems of praxeology already existed and that he is merely enunciating and explaining what already exists.

In a seemingly endless series of clarifications, judgments, and diversions, Mises has led the reader to a useful approach for understanding human action. He is able to accomplish this because the reader himself is the subject of examination and can evaluate Mises's claims introspectively. While it is not possible to present the entire contents of the first third of *Human Action* here, we can recap the central aspects that would impact the reader's outlook on economic

science: autistic exchange, profit and loss, interpersonal exchange, and the issues of time and uncertainty.

Autistic exchange may or may not include scratching an itch, but it includes simple independent actions we take without respect to other individuals but expect to "profit" by. Examples are turning off your alarm clock, getting dressed, brushing your teeth, making coffee, and so forth. As a noteworthy illustration of autistic exchange, economists have often employed the Robinson Crusoe economy to describe the isolated individual providing for himself, engaging in actions such as catching fish or making a fishing net, to analyze the phenomenon of investment.

This model brings attention to the purposes of the individual, the scarcity of resources and knowledge, and costs and benefits prior to action. The Robinson Crusoe situation sharpens the reader's awareness of competing purposes (food, water, clothing, shelter, leisure, rescue, etc.) under highly limited resource constraints compared to picking a job and shopping at the supermarket. The reader clearly sees the decision-maker, Robinson Crusoe, employing the marginal principle in an attempt to maximize "profits" under conditions where survival is threatened.

Mises does not treat this *conceptual setting* as a historical tale or an otherworldly situation, but rather as an essential analytical step in part 4. Here, imaginary constructions, which are sometimes fictitious, are employed to develop understanding of human behavior, economic science, and the market society: "No other imaginary construction has caused more offense than that of an isolated economic actor entirely dependent on himself. However, economics cannot do without it. In order to study interpersonal exchange, it must compare it with conditions under which it is absent" (Mises 1998, 244).

For economic analysis, psychic profit is often seen as an unmentioned criterion or afterthought, especially compared to the more controversial and everyday useful concepts of accounting profits and losses. But Mises (286–88), building on the concept of autistic exchange, begins his analysis with this universal understanding of costs and benefits (as well as profits and losses) and its impact on action before proceeding to the economic and accounting versions. We expect to profit from all our actions:

> Profit, in a broader sense, is the gain derived from action; it is the increase in satisfaction (decrease in uneasiness) brought about; it is the difference between the higher value attached to the result attained and the lower value attached to the sacrifices made for its attainment; it is, in other words, yield minus costs. To make profit is invariably the aim sought by any action. If an action fails to attain the ends sought, yield either does not exceed costs or lags behind costs. In the latter case the outcome means a loss, a decrease in satisfaction.
>
> Profit and loss in this original sense are psychic phenomena and as such not open to measurement and a mode of expression which could convey to other people precise information concerning their intensity. (286–87)

He then goes on to show that in the economy our actions get translated into money units and prices. This conveys a more "precise information" in the form of economic calculation and ultimately provides for a social wide objective evaluation of our actions and contributions toward value, productivity, and efficiency. But even here, "we cannot even think of a state of affairs in which people act without the intention of attaining psychic profit and in which their action result neither in psychic profit nor in psychic loss" (287).

Moving from autistic exchange to interpersonal exchange enters the realm of the most accepted concept of economic analysis, the mutual gains from trade, and its best-developed mode of analysis, price theory. Mises can then move ahead to place interpersonal exchange at an even higher level of significance. Although autistic and interpersonal exchange share the same motivating features conceptually, there is an important distinction between them *historically*: "The step which leads from autistic to interpersonal exchange was no less a jump into something entirely new and essentially different than was the step from automatic reaction of the cells and nerves to conscious and purposeful behavior, to action" (196).

Mises concludes that transitioning from the wilds of animalistic behavior of pure autistic exchange to interpersonal exchange between people therefore marks the emergence of "society." This new type of exchange is a joint action of conscious and purposeful people who recognize property rights that results in mutual gain.

The pricing process is what regulates such exchanges and the entire ongoing development of the division of labor in society. As such, we can rightly attribute human developments, broadly conceived as everything that enhances trade (private property, language, money, weights and numbers, law, accounting, etc.) to the same market process (Thornton 2025). These developments or institutions are how we describe society in general, and we differentiate between different societies by variations in those same institutions, suggesting a neutral view of the basic nature of man.

Time and Uncertainty

In Mises's praxeological system, cause and effect play a central role; this then introduces the concepts of time and uncertainty, which were largely lacking in previous theorizing. Mises (99) states that while the logical simultaneity of the praxeological system is outside of time and is therefore categorically different from the real-world acquisition of knowledge, thought, and action. However, it does include change and cause and effect so that it necessarily introduces time into the analysis: then and now, before and after, sooner and later. For Mises (100), "Action is always directed toward the future," which introduces time and therefore necessarily introduces uncertainty—and both concepts are critical aspects of his system.

The present is often considered as just an imaginary boundary between the past and the future, but in praxeology it has a special significance as the domain of reason, choice, and action and therefore of special import in judging rationality. The future is uncertain, and the end (of the present) is always near, so that time itself must be economized, apart from the economization of resources. This realization provides an impenetrable barrier against charges of the possibility of irrational action. Such charges are often based on alleged inconsistencies between plans and actions, or between scales of value and action, but these challenges fail to account for the roles of time and uncertainty. Plans and scales of value are conceptual placeholders in the epistemological investigation, not concrete features of reality. Mises presents the case of a stock market speculator on the floor of an

exchange as an illustration of how plans and scales of value can be in a state of flux, responding to ever-changing stimuli, and this defeats all charges of irrationality. He deductively concludes:

> However one twists things, one will never succeed in formulating the notion of "irrational" action whose "irrationality" is not founded upon an *arbitrary judgment of value*. Let us suppose that somebody has chosen to act inconstantly for no other purpose than for the sake of refuting the praxeological assertion that there is no irrational action. What happens here is that a man aims at a peculiar goal, viz., the refutation of a praxeological theorem, and that he accordingly acts differently from what he would have done otherwise. He has chosen an unsuitable means for the refutation of praxeology, that is all. (104; emphasis added)

Mises provides a very deep and fundamental analysis of the human condition, reason, and choice. Using the isolation of autistic exchange, he shows how human thought processes transform our purposes into actions. This in turn is used to illuminate interpersonal exchange and to derive all the commonly accepted theorems of economics.

While the first three hundred pages of *Human Action* have been broadly criticized by both professional and amateur economists, as well as by both friends and foes of free markets, it is not inconceivable that many readers found this foundational material unconsciously convincing in terms of the theory of rational behavior and developed a general understanding of it, a form of learning by osmosis. This hypothesis seems highly likely given that the text challenges the reader to "test" the analysis point by point, introspectively, against his own thinking about his own actions.

If this hypothesis is correct, or at least not patently false, then the next question is whether or not Mises's analysis was conveyed to a large enough number of professionally influential people, pro and con, to make an impact on professional economics and its future direction. The next section turns to the reception of *Human Action* when it was first published in 1949 and what was said (and unsaid) about the various parts of Mises's book.

Who Was Reading *Human Action*?

While the German edition in 1940 was aborted by the forces of history, the English edition, published by Yale University Press in 1949, was a runaway bestseller by academic publishing standards. It was widely read by academics and intellectuals, as well as by Mises's new fan base in the United States. Given that Mises's top European student had in 1944 published the bestselling book *Road to Serfdom*, which sold two million copies in all forms, including twenty translations, the teacher's theoretical treatise would have been much anticipated by academics across the ideological spectrum and by the general public.

At the time of *Human Action*'s publication, mathematical economics and econometrics were fringe aspects of the economics profession and were strictly the domain of a small number of specialists. In contrast, the average academic economist of the day would have been aware of the book, and research-oriented economists would likely have purchased and read the book. Prior to the publication of *Human Action*, institutional and socialist-type economics, both of which had a negative view of individual rationality, were important components of the economics profession.

Here we will survey some reviews of the book published in the leading economics journals and the popular press. It is noteworthy that many of the reviews were written by leading theoretical economists of lasting import, as well as a few specialists on methodological topics, for some of the leading general interest economics journals.

Seymour Harris, a professor of economics at Harvard University writing in the *Saturday Review*, does at least take note of Mises's "long discussion of the epistemological problems of the sciences of human action, of the market and the pricing system, etc." amid his diatribe against the book. Harris was an ardent proponent of Keynesian economics and government planning of the economy, so it is not surprising that he did not like the book or bother addressing the contents of that "long discussion" (Harris 1949, 31).

Another Harvard professor who was likewise ill trained to address the "long discussion" was the famous agriculturalconomist John Kenneth Galbraith. Writing for the *New York Times*, he likewise avoids raising Mises's methodological issues but does accurately, if cynically, describe Mises's generalized conclusion: "If that market is completely

free, . . . then man achieves the highest state of grace to which he can rise." However, rather than discussing Mises's "impressive scholarship," Galbraith (1949) instead focuses on defending proponents of the government interventionist model, such as himself, "who would subvert [the completely free market economy] to the service of selfish or shortsighted ends.

Ludwig Lachmann, the South African iconoclast economist, wrote a lengthy review in the leading economics journal of the time, *Economica*. Seemingly comfortable with both Austrians and Keynesians, he situates the great methodological issues facing the economics profession and the two schools' respective positions on those issues without attempting to come to wide-ranging, definitive conclusions. Despite his attempt to avoid bias and partisanship, he does note that on the fundamental issue of a priori knowledge "it seems to us, however, that in this particular case it is possible to side with Professor Mises" (Lachmann 1951, 415). Lachmann (419) also agrees with and quotes Mises's (1998, 195) universal conception of the social order and the theory of exchange: "The exchange relation is the fundamental social relation. Interpersonal exchange of goods and services weaves the bond which unites men into society." Most importantly, Lachmann (1951, 413) describes Mises's first seven chapters as a culmination, a "centre of gravity," of a then-developing literature establishing a methodology of theoretical economics that conveys precise knowledge of exact things—that is, theory concerning human activity on par with the natural sciences, but of a completely different nature. Lachmann accepts Mises's views on the concomitance of human reason and action but is more concerned about the issues related to plan coordination in the macroeconomy.[4]

J. R. Hicks, writing a short review in the *Guardian*, claims that the book is a counter to Marx, a strident rather than conciliatory version of liberalism, and not very original in terms of traditional economic theory. However, he does acknowledge *Human Action* as "a powerful book, which presents a real challenge, and which deserves attention

[4] It is worth noting that in addition to broadly endorsing Mises's contributions, Lachmann (1951, 427) also shares Mises's concern about the broad acceptance of economics proper: "The outlook for the praxeological sciences is not exactly bright. In our time they are bound to come into conflict with the dominant ideologies at almost every point. . . . It will be for History to judge.

even from those who will be least in sympathy with it" (Hicks 1949, 3). Indeed, the book would not seem to be original for an economic theorist of J. R. Hicks's stature and age, because, as we will later see, most of this important reasoning was not original after the early work of Joseph Schumpeter, Mises's own previous writings, and those of Lionel Robbins.

Probably the most telling review of *Human Action*—published in the *American Economic Review*, the flagship and most-read economics journal—indicates that Mises was basically on solid ground. According to George J. Schuller (1950, 419), "In addition, he offers the best defense the reviewer has seen of apriorism in economic methodology and some important modifications of marginalist theory in relation to quantitative and temporal analysis." Schuller also has numerous problems with the book, but the problems raised either are based on misunderstanding or are highly nuanced: nothing that would undermine any aspect of Mises's analysis or distract from a normal reading of the text. Murray Rothbard (1951) is able to reject a dozen of the most noteworthy criticisms in a short comment on the review.

There was one friendly review from Henry Hazlitt, someone who might be considered the "dean" of economic journalism in America at the time. Unfortunately, he does not discuss the early material on epistemological aspects of Mises's treatise other than to agree with him and to note that "once his more abstract theoretical foundations have been laid his chapters are models of lucidity and vigor" (Hazlitt 1949). One can only surmise that Hazlitt saw an impressive rigor provided by those "theoretical foundations" but failed to provide readers with any further guidance to their significance.

Another important review was by Frank Knight, who was the leading American theoretical economist. He was a cofounder (with Jacob Viner and Henry Simons) of the early Chicago School of economics, and whose students included Milton Friedman, George Stigler, and James Buchanan. It seems very reasonable to assume that the three students were also intimately familiar with Mises and his work. They all were members of the Mont Pelerin Society, which was founded in 1947 by Mises's "student" Friedrich von Hayek with a membership heavily weighted toward leading academic economists, including Mises himself.

Knight's (1941) review is telling in that it opens with general admiration and agreement but feigning many disagreements with

the "methodological" and "fundamental" issues (409–10). After abandoning this field, he uses the remainder of his review (410–27) to rehash his disagreement with Eugen von Böhm-Bawerk and Mises on the topics of capital and interest. But of course, had Knight had a well-developed criticism of Mises's fundamental method, rather than a stream of quibbles, he no doubt would have pursued it in his lengthy review. I will suppose that Knight did not have a well-developed argument against Mises in terms of the fundamentals of action as much as he had disagreements with the implications of those differences in terms of theory and policy and even in terms of the understanding of the complexity and unpredictability of events. Where Knight was ever the skeptic and curmudgeon, Mises could easily be perceived in contrast as an optimist when it came to the power of economic theory.

Notes on Misesian Influence

It would be quite absurd to attempt here a thorough examination of the possible influences of Mises's book *Human Action* on the post-1950s economics profession. However, even a cursory examination of the evidence reveals both some obvious influences and some deeper historical seams of influence from Mises's own prior works on economic calculation and epistemological issues.

James Buchanan

Buchanan was one of the few "students" of Frank Knight, a theoretical/methodological opponent of Mises. However, Buchanan rejected Knight on key points in favor of Mises in accepting methodological individualism, subjectivism, and praxeology while launching the public choice revolution. According to Ross Emmett (2018), "Buchanan adopted a catallactic perspective," in contrast to Knight, who wanted to argue ethical issues, to dispute matters of taste, and to use metaphors when it came to capital theory and democratic processes. Knut Wicksell, not Knight, was the positive influence on Buchanan, and we learn from Buchanan's *Cost and Choice* (1969) the extent of the influence of Mises and the Austrians on his overall approach. *Human Action* is noted by Buchanan, but he traces the subjective-theoretical notion of cost from the economists at the London School to Hayek

and Lionel Robbins, and then back to Mises's early work. When Buchanan (1954) launched his praxeological extension of economics into politics, creating public choice theory, he leaned heavily on the foundational work of Mises's *Human Action*.

Gordon Tullock

Tullock, the cofounder of public choice, is said to have claimed that the only economics book he read before becoming an economist was *Human Action*. Tullock remained committed to economic theory and methodological objectivity and retained an interest in topics related to the Austrian School.

Milton Friedman

Although he took his first microeconomics class from Jacob Viner (a student of Frank Taussig) at Chicago in 1932 and was a keen anecdotal observer (alcohol prohibition, 1920–33; see Thornton 2016), Friedman's intellectual influences included applied mathematics, statistics, institutional economics, and Keynesian economics up through World War II. But according to David Henderson and Jennifer Burns, at least by 1950 he had become an outspoken critic of Keynesian economics and mathematical-econometric modeling: "Friedman was unsparing in his criticisms of that approach to macroeconomics" (Henderson 2024, 31). In contrast to the emerging Keynesian Revolution, Friedman's major contributions are not inconsistent with those of Austrian School, so there is some potential here for future investigators to examine.

Gary Becker

Becker exemplifies what might be called "Chicago-style praxeology," the application of Mises's principle of human behavior to noneconomics, or noncatallactics, in both the autistic and interpersonal forms. The title and opening remarks of his Nobel Prize acceptance speech are very Misesian (see Becker 1992). Becker accepted the definition of economics by Lionel Robbins as an open-ended approach to human behavior. Two historians of economic thought, Roger Backhouse and Steven Medema (2009b, 230), make this point clear: "Given Gary Becker's role in pushing outward the boundaries of economics, one might expect that he would have had strong views about a broad definition of the subject. However, in his 1971 graduate textbook,

Becker (p. 1) defined economics with a straightforward extension of the Robbins definition to a choice theoretic framework: 'the study of the allocation of scarce means to satisfy competing ends.' In 1976, though, Becker (1976, p. 4) felt compelled to point out that most economists find the generality of this definition embarrassing and qualify it 'to exclude most nonmarket behavior.'"

Robert Lucas, Armen Alchian, and Lionel Robbins

Likewise we could extend the possible influences of the Austrians to "rational expectations" and Robert Lucas as well as Armen Alchian's (1950) work related to uncertainty and profit maximization.

Robbins himself credits Mises and the Austrians for influencing his thinking on the nature of economics and basic aspects of theory. Backhouse and Medema (2009a) chart the long road to the acceptance of Robbins's definition of economics as the study of attaining ends with scarce means, but do so, remarkably, without ever mentioning Mises and the Austrians. The modern definition of economics is essentially a Misesian one that emerged from the work of Carl Menger and the early Austrians. According to Wikipedia,

> [In the 1930s], Lionel Robbins noticed that [Jean-Baptiste Say's] definition [of economics] no longer sufficed, because many economists were making theoretical and philosophical inroads in other areas of human activity. In his *Essay on the Nature and Significance of Economic Science,* he proposed a definition of economics as a study of human behaviour, subject to and constrained by scarcity, which forces people to choose, allocate scarce resources to competing ends, and economise (seeking the greatest welfare while avoiding the wasting of scarce resources). According to Robbins: "Economics is the science which studies human behavior as a relationship between ends and scarce means which have alternative uses." Robbins' definition eventually became widely accepted by mainstream economists, and found its way into current textbooks. Although far from unanimous, most mainstream economists would accept some version of Robbins' definition, even though many have raised serious objections to the scope and method of economics, emanating from that definition.[5]

[5] Wikipedia, s.v. "Economics," last modified September 16, 2024, https://en.wikipedia.org/wiki/Economics#Neoclassical_economics.

Mathematical Economics and Econometrics

Both mathematical economics and econometrics were nascent until World War II and were the domain first of noneconomists and later of economists who specialized in those topics, only to dominate graduate education and publication in the leading economic journals by the end of the twentieth century. However, both subdisciplines rely on assumptions of rational human behavior and stable preferences, as well as subsidiary assumptions such as large numbers and normal distributions, as fundamental supports of their approaches. According to Mark Blaug (2003, 145):

> Something happened to economics of the 1950s that is little appreciated by most economists and even by professional historians of economic thought. The subject went through an intellectual revolution as profound in its impact as the so-called Keynesian Revolution of prewar years. I call it the Formalist Revolution. . . .
>
> It is common to think of interwar economics in terms of a struggle between institutionalists and neoclassicists but as a number of historians have recently reminded us, "pluralism" is a more accurate description of the state of play in economics between the two World Wars. The extraordinary global uniformity in the analytic style of the economics profession that we nowadays characterize as neoclassical economics only dates from the 1950s.[6]

The use of mathematics and quantitative analysis goes back to the earliest days of the profession. Antoine Augustin Cournot, Léon Walras, and their followers would have been unlikely to be swayed by Mises's criticisms nor enthused by his positive contributions. However, Mises's development of a rational theory of human behavior may have discouraged dissent and encouraged acceptance of formalism by nonmathematical economists. Even more directly, Oskar Morgenstern, who was at least initially influenced by Mises, went on to become one of the primary developers of game theory in economics.

[6] Blaug suggests that the "ultimate objective" was to achieve a complete mathematical axiomatization of economic theories.

Summary and Conclusion

The hypothesis of this essay is that *Human Action*, particularly the first few hundred pages, were instrumental to the new ways of economic thinking that emerged after World War II, such as the new Chicago School, the Public Choice School, the importance of price theory, and the application of rational behavior to nonmarket activities. The claim of the essay is that the reader of this bestselling book is forced to test and accept all the steps in Mises's argument introspectively and that this forms a basis of agreement. This unconscious agreement is a form of learning by osmosis: the unconscious learning of otherwise "complicated situations which cannot be clearly analyzed," defined, or explained by the reader.

This essay examines the contents of the book and its possible influences on its readers, which are then compared with prominent reviews of the book published in leading academic journals and popular publications. Some evidence of the book's influence on subsequent developments in professional economics is introduced, including that Mises was instrumental in shaping the modern definition of economics. The findings from this examination suggest that further research is warranted.

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About the Contributors

Paul F. Cwik is a professor of economics and finance at the University of Mount Olive and a fellow of the Mises Institute. He is the author of *Austrian Business Cycle Theory: An Introduction*.

Thomas J. DiLorenzo is president of the Mises Institute. He is the author or coauthor of eighteen books including *The Real Lincoln*, *How Capitalism Saved America*, *Lincoln Unmasked*, *Hamilton's Curse*, *Organized Crime: The Unvarnished Truth about Government*, *The Problem with Socialism*, and *The Politically Incorrect Guide to Economics*.

David Gordon is a senior fellow of the Mises Institute and the of the *Journal of Libertarian Studies*. He is the author of *Resurrecting Economics*, *An Introduction to Economic Reasoning*, *An Austro-libertarian View*, and *Resurrecting Marx*. He is also editor of *Secession, State, and Liberty* and coeditor of H. B. Acton's *Morals of Markets and Other Essays*.

Jeffrey M. Herbener is chairman and professor of economics at Grove City College. He is the editor of two books—*The Meaning of Ludwig von Mises* and *The Pure Time Preference Theory of Interest*, which has been translated into Chinese—and scores of articles in popular and scholarly venues including the *Wall Street Journal*, *Investor's Business Daily*, the *Quarterly Journal of Austrian Economics*, and the *Journal of Libertarian Studies*. He is a senior fellow and holds the Peterson-Luddy Chair at the Mises Institute, and is a fellow of the Institute for Faith and Freedom at Grove City College.

Randall G. Holcombe is DeVoe Moore Professor of Economics at Florida State University and a senior fellow of the Independent Institute and the James Madison Institute, as well as a research fellow at the

Law and Economics Center at George Mason University. He is vice president of the Mont Pelerin Society and the author of twenty books and over two hundred articles published in academic and professional journals. From 2000 to 2006, he served on Florida governor Jeb Bush's Council of Economic Advisors.

Hans-Hermann Hoppe is professor emeritus of economics at the University of Nevada–Las Vegas and a distinguished senior fellow of the Mises Institute. He is the founder and president of the Property and Freedom Society.

Jörg Guido Hülsmann is a professor of economics at the University of Angers, a senior fellow of the Mises Institute, a member of the European Academy of Sciences and Arts, and a corresponding member of the Pontifical Academy for Life. He is the author of *Abundance, Generosity, and the State* (2024), *Krise der Inflationskultur* (2013), *The Ethics of Money Production* (2008), and *Mises: The Last Knight of Liberalism* (2007).

Peter G. Klein is W. W. Caruth Endowed Chair, professor of entrepreneurship, and chair of the Department of Entrepreneurship and Corporate Innovation at Baylor University's Hankamer School of Business. He is adjunct professor of strategy and management at the Norwegian School of Economics and senior academic advisor for the Mises Institute. His research focuses on the economics of entrepreneurship and business organization, with applications to innovation, regulation, and economic growth. Klein has authored or edited five books and has published over seventy-five academic articles, chapters, and reviews.

Robert P. Murphy is senior fellow of the Mises Institute and chief economist at infineo. He is the author of *Contra Krugman: Smashing the Errors of America's Most Famous Keynesian*, *Chaos Theory, Lessons for the Young Economist, Choice: Cooperation, Enterprise, and Human Action*, *The Politically Incorrect Guide to Capitalism*, and *Understanding Bitcoin* (with Silas Barta), among others. He is also host of *The Human Action Podcast* and *The Bob Murphy Show.*

Jonathan Newman is the Henry Hazlitt Research Fellow at the Mises Institute. His research focuses on Austrian economics, inflation, business cycles, and the history of economic thought.

Patrick Newman is an assistant teaching professor of economics at the University of Tampa and a fellow of the Mises Institute. He is the author of *Cronyism: Liberty versus Power in Early America, 1607–1849* (2021) and *Cronyism: Rise of the Corporatist State, 1849–1929* (2025). He is also the editor of Murray Rothbard's *Conceived in Liberty: The New Republic, 1784–1791* (2019) and *The Progressive Era* (2017).

Shawn Ritenour is professor of economics at Grove City College and a senior fellow of the Mises Institute. He is the author of *Foundations of Economics: A Christian View* and *The Economics of Prosperity: Rethinking Economic Growth and Development*.

Joseph T. Salerno received his PhD in economics from Rutgers University. He is professor emeritus of economics in the Lubin School of Business of Pace University in New York City. He is the editor of the *Quarterly Journal of Austrian Economics* and the academic vice president of the Mises Institute, where he serves on the board of directors. He is the author of *Money: Sound and Unsound* (Mises Institute, 2010) and has published numerous articles and chapters in peer-reviewed journals and scholarly books, including *Oxford Economic Papers*, the *Journal of the History of Economic Thought*, the *European Journal of the History of Economic Thought*, the *Journal of Institutional Economics*, the *Quarterly Journal of Austrian Economic*s, and the *Review of Austrian Economics*. He has testified before the US Congress several times.

Timothy D. Terrell is T. B. Stackhouse Professor of Economics at Wofford College and a senior fellow of the Mises Institute. He is also senior associate editor of the *Quarterly Journal of Austrian Economics*. His research focuses on regulatory and environmental policy issues.

Mark Thornton is a senior fellow at the Mises Institute and was the Peterson-Luddy Chair in Austrian Economics from 2021 to 2023. He serves as the book review editor of the *Quarterly Journal of Austrian Economics*. His publications include *The Economics of Prohibition* (1991), *Tariffs, Blockades, and Inflation: The Economics of the Civil War* (2004), *The Quotable Mises* (2005), *The Bastiat Collection* (2007), *An Essay on Economic Theory* (2010), *The Bastiat Reader* (2014), and *The Skyscraper Curse— and How Austrian Economists Predicted Every Major Crisis of the Last Century* (2018). He also hosts the *Minor Issues* and *Unanimity* podcasts.

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